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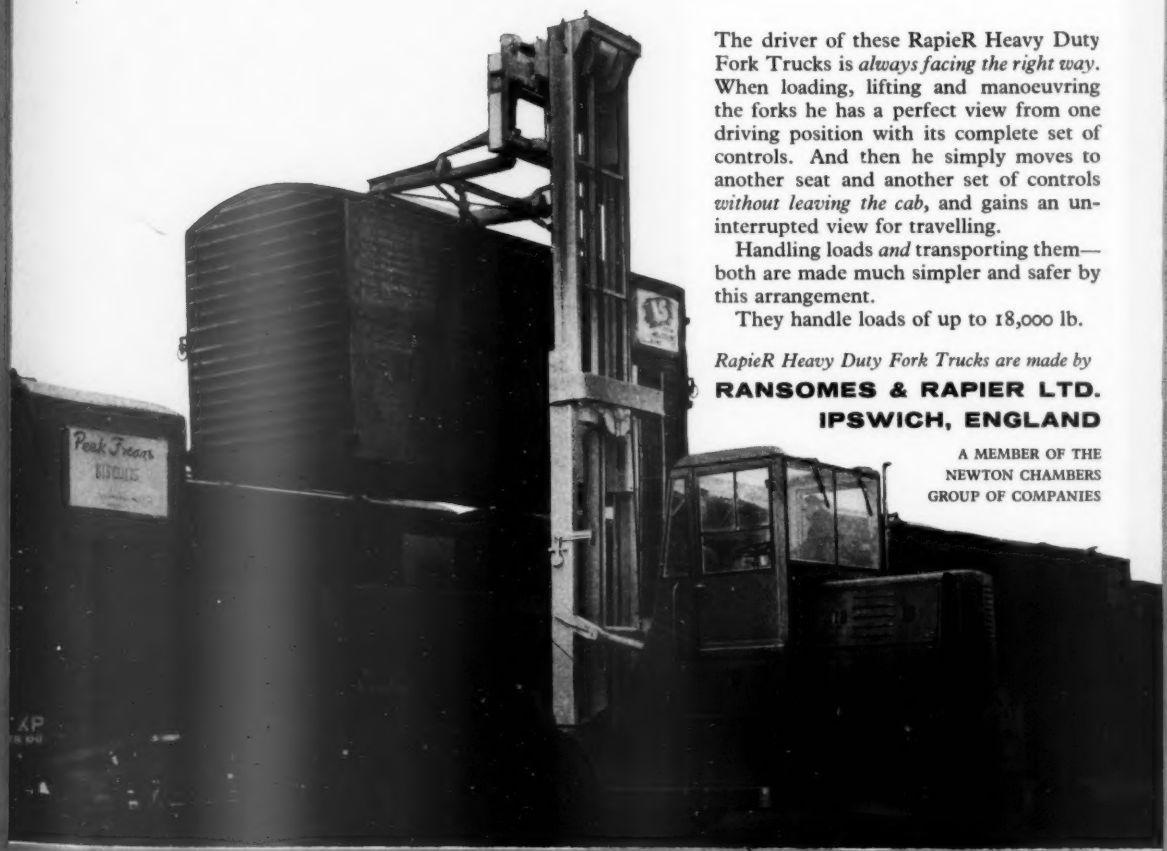

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The Unofficial Strike

A MASS or individual action, if of sufficient significance, usually becomes the object of criticism from the party whose normal activity it contravenes. When it also invites adverse comment from within its own ranks, it may be reckoned that the action itself is wrong or at least unwise. In an editorial article this week, Mr. Harold Wilmot, Chairman the Beyer, Peacock Group is reported as criticising the unofficial strike before a meeting of the British Institute of Management Research. Mr. Wilmot makes a practical suggestion on the treatment of individuals who, in taking unofficial action against what they regard as injustice, effectively block their own leadership in the achievement of the overall union aim. On the same day, and obviously not as a result of any agreement with Mr. Wilmot, Mr. Frank Cousins, General Secretary of the Transport & General Workers' Union, spoke at Bristol in much the same vein. He made it clear that he and other union leaders were concerned at the development of unnecessary disputes. The weapon of withdrawal of labour should be the last resort of men and women in pursuing their legitimate claims. A wild use of the weapon could amount to a cry of "wolf" until, in the end, no one would take any notice. Mr. Cousins added, significantly, that the unions did not want weapons to be taken up to satisfy the egos of anyone, of one side or the other. In the meantime, the unofficial rail dining-car strike continues to spread. All regions of British Railways are now affected, and there is always the danger that the dispute will be taken up by maintenance men and even by other grades. In this event, train services would be affected. Already, men at Kings Cross and Manchester have decided to declare "black" any trains with refreshment services, including Pullmans. It is to be hoped that the men will listen to their leaders and accept the offer of Mr. F. G. Hole, General Manager of British Transport Hotels & Catering Services, to meet personally with the staff side of the regional councils as soon as normal working is resumed. It is certain that undisciplined and selfish conduct, publicised within a relatively short time before the publication of the Guillebaud report, will not bring favour to the cause of railwaymen either with the independent committee or the public which ultimately will have to foot the bill for any increases in pay which may arise from it.

Railway Pay Inquiry

THE first stage of the independent railway pay inquiry under the chairmanship of Mr. C. W. Guillebaud is now almost finished. Apart from a small number outstanding, all investigations into railway jobs were completed during the week commencing September 7, and the investigation is now concentrated on jobs in outside industries. The work is well under way and may be cleared by the end of this month. It is unanimously agreed that subsequent documentation and consideration of the information gained cannot be unduly hurried, and it is obviously impossible to give a firm indication on how long this will take. Meanwhile, Mr. Guillebaud has stated that he is very conscious of the necessity of an early report. It is difficult to understand the impatient attitude of certain union members; consideration of any claim inevitably involves an examination of the existing structure, and this is already being carried out as quickly as thoroughness permits. One almost begins to wonder whether there may not be some method in this particular madness. Another pay inquiry recently found that, in certain cases, wages paid were too high: surely the recalcitrant N.U.R. members cannot suspect that something similar might obtain within their own wage structure ?

European Conference of Ministers of Transport

THE European Conference of Ministers of Transport, representing member countries of the United Nations Organisation for European Economic Co-operation (O.E.E.C.), and Jugoslavia, met in Paris last month under the chairmanship of Mr. Eildert Stykel, of the Netherlands. After considering a report on the effect of oil pipelines on other means of transport, and problems of road safety, the conference noted that the total volume of railway traffic in the 17 member countries in 1958 was 7 per cent less than in the preceding year. The main factor in the decline in traffic was found to be the fall in coal consumption. It was noted also that nearly 800 miles of railway were electrified in 1958. Conversion to diesel traction was reported to be proceeding rapidly. Progress was also made in the standardisation of goods wagons; 10 per cent of total stock has now been standardised. The Eurofima Company, set up in 1955 to facilitate international financing of railway rolling stock, has been able to make available 100,000,000 Swiss francs to its shareholders in 1959. This sum has been used to order 160 diesel locomotives.

Need for Planning in Transport

THE first Minister of Transport, Sir Eric Geddes, a former Deputy General Manager of the North Eastern Railway, and first President of the Institute of Transport, in 1919, stressed the need for the several means of transport in Britain to be used so that each bore the traffic for which it was best suited. Forty years later, at the Institute anniversary luncheon at the Connaught Rooms, London, W.C.2, on November 3, Field-Marshal Viscount Montgomery of Alamein drew attention to this statement and pointed out that the need still existed. Experience in three theatres in the war of 1939–45, he stated, had shown the need for careful allocation and use of transport resources. That need, he believed, was as great in

peace as in war. At present the roads were carrying much traffic which could be borne more advantageously by the railways, and vice versa. The roads were becoming increasingly congested. There did not seem to be a national master plan. He commended the formulation of such a plan to the new Minister of Transport, Mr. Ernest Marples. The President of the Institute, Mr. R. G. Grout, recalled its foundation 40 years previously at a luncheon given by Sir Albert Stanley, a former President of the Board of Trade, at that time Chairman of the London Underground group of companies, afterwards Lord Ashfield, and Chairman of London Passenger Transport Board.

Overseas Railway Traffics

PARAGUAY Central Railway receipts have maintained their improvement following the poor returns at the beginning of the financial year. During the six weeks to October 2, receipts showed an increase over the corresponding figures for 1958, and aggregate receipts are now only G390,084 less than at the same time last year. Salvador Railway Company receipts for August amounted to colones 175,000 compared with colones 147,000 in August, 1958, an increase of colones 28,000. Aggregate receipts from July 1, amounted to colones 335,000 compared with colones 310,000 in the corresponding period of 1958. Costa Rica Railway receipts for September amounted to colones 1,969,239 compared with colones1,655,384 in September, 1958, an increase of colones 313,855. Aggregate receipts from July 1, amounted to colones 6,526,462 compared with colones 5,454,248 in the corresponding period of 1958. Latest figures received from the Midland Railway Company of Western Australia Limited show that estimated railway and road services receipts for August amounted to £A76,673 compared with £A64,793 in August, 1958. Indian Railways approximate gross earnings for August, 1959, showed an increase of 8.62 per cent compared with the approximate figures for August, 1958. In comparison with actual returns for August, 1958, the increase is a little less at 6·42 per cent. Wagon loadings on both broad and metre gauge lines showed a considerable increase.

European Passenger Summer Services

A WELCOME feature of the 1960 summer passenger services, agreed at the European Timetable & Through Carriage Conference at Vienna last month, is the restoration of the morning departure from Victoria of the " Golden Arrow " Pullman service between London and Paris. This has been made possible by alteration in timings on the French National Railways, on which certain Paris-Boulogne/Calais boat expresses will be electrically worked between Paris and Amiens and accelerated. Another improvement in the London-Paris service will be the later departure from Victoria, commencing with the winter 1960-61 service, of the afternoon service *via* Folkestone/Calais, at 2.30 instead of 12.30 p.m. The "Simplon-Orient Express " is to be accelerated, saving a night in both directions between London and Paris and Belgrade and considerable time between the Western capitals and Sofia and Istanbul. This express next summer will also work between Paris and Milan a branch to Rome and Naples composed of vehicles normally forming the " Rome Express " *via* Modane. Improvements in the services *via* Harwich and the Hook of Holland will include, in connection with the night steamers, through coaches between the Hook and Warsaw in the " Harz Express."

Metrovick Study Course for B.R. Engineers

CO-OPERATION between suppliers of railway equipment and railway managements in providing instruction in the design and use of apparatus is of increasing importance. This applies particularly to British Railways, where implementation of plans for re-equipment calls for many more staff to supervise electrification, re-signalling, and other new work. An example is the study course on railway electrification protective gear for British Railways staff held at the Trafford Park Works of Metropolitan-Vickers Electrical Co. Ltd., on October 13-16, and repeated a week later. Over 50 members of the technical staffs of the Eastern, London Midland, and Scottish Regions attended. A series of 10 lectures by a team of Metrovick specialist engineers covered the theory, construction, application, commissioning, and maintenance of Metrovick automatic circuit protective gear now being used extensively in connection with the a.c. electrification of British Railways. There were also practical demonstrations of relay operation, calibration, testing, and so on. The visitors had the opportunity of carrying out practical tests in simulated site conditions. Many items of equipment were available for inspection, and a visit to the substation in the London Midland Region permitted the examination of equipment already in service.

British Railway Plans for Better Trains

MUCH information on British Railways plans for improving passenger travel was given by Mr. T. H. Summerson, Member of the British Transport Commission and Chairman of the North Eastern Area Board, in a 15-min. address last week at the annual convention of the Association of British Travel Agents at Harrogate. In general terms, he stated, it was now planned, after research into public preferences, to provide most first class accommodation in compartments and second class in open coaches. The air-conditioned multiple-unit diesel-electric Pullman trains now being built by the Metropolitan-Cammell Carriage & Wagon Co. Ltd. for the St. Pancras—Manchester service were in furnishing and décor " as unlike the traditional Pullman stock as the Comet differs from an early biplane." They would be painted blue and white, and maintaining them would be a test whether it was possible to keep trains in this country genuinely clean. The average speed, start-to-stop, of most principal expresses was to be 75 m.p.h. He drew his hearers' attention to the combined rail and road facilities provided by British Railways: the Autobritn plan, which enabled a passenger to arrange to be met at destination by a self-drive or chauffeur-driven car; and the various car-sleeper services.

Growing Importance of Signal Engineering

IN proposing the toast of the Institution of Railway Signal Engineers at its annual dinner and dance on October 30, Mr. David Blee, General Manager, British Railways, London Midland Region, stressed the many-sided character of the problems facing the signal engineer and the extent of the technical and administrative ability required to solve them and carry out efficiently the task falling to him under the modernisation plan. Large as that was, it was only a beginning, and all the resources of the profession, in both railway and industrial service, would be needed to cope with the other work which must follow. Replying, the President, Mr. D. G. Shipp, who is himself closely associated with many of the remarkable developments which the plan has called forth, showed how effective these already had proved themselves in reducing the number of signalboxes and, by concentrating control in a few, had contributed to better operation of the traffic and increased the factor of safety. A matter of increasing importance, he pointed out, was the provision of adequate instructional material. The Council had decided to have prepared a further set of technical publications to supplement those issued by it some time ago in an endeavour to meet a pressing need not catered for by the ordinary technical colleges or indeed in any other way.

Facts about British Railways

THE 1959 edition of " Facts and Figures about British Railways," received earlier this week from the British Transport Commission, contains as in previous years statistical and other information clearly set out. It covers not only British Railways, but ancillary activities such as railway hotels and catering arrangements at stations and in trains, and railway shipping services. Statistics show that material progress has been remarkable. In the decade 1948-58, 454 track-miles were electrified. Many of the statistics necessarily relate to 1958, but a good deal of later information is available, such as the trial running of the first electric train on the standard gauge in Scotland, on the Milngavie branch, part of Glasgow suburban a.c. electrification. An admirably written section on freight services outlines the nature and amount of traffic conveyed with supporting statistical data, and describes the steps being taken to run express goods trains with continu-

ous brakes build higher-capacity wagons, and so on. The description of new developments in permanent way and signalling work will interest many railwaymen overseas.

Railway Staff Training in East Africa

EAST African Railways & Harbours, as the largest employer of labour in the group of three territories which it serves, Kenya, Uganda, and Tanganyika, devotes much attention to the welfare and education of its staff of many races. The management faces the situation in Africa today with realism. The salary structure is non-racial and within the service there are opportunities for advancement open to all. The policy is to engage the bulk of staff from within East Africa, though for some certain professional and specialist appointments staff is recruited from overseas " for the present," as stated in E.A.R. & H. publications. An article elsewhere in this issue describes briefly the training school at Nairobi, with some particulars of the method of recruiting staff. The Principal of the school is Mr. D. D. Nuttall. There are separate hostels for Africans, Europeans, and Indians, an arrangement adapted to the customs of the region, but all races partake in the school activities: classes, entertainment, and sport.

Another Fire in an Electric Vehicle

ON January 28, 1959, a Glasgow Corporation tramcar collided with a lorry. Severe arcing was set up and the car caught fire and became rapidly gutted. The motorman and two passengers lost their lives. The accident has been reported on by Colonel D. McMullen, Inspecting Officer of Railways, Ministry of Transport. It is of interest to read that the condition of a steel conduit and the cable running therein was very similar to that found after the fire on the Central Line of London Transport, on July 28, 1958, also inquired into by him, as recorded in our issue of April 3, 1959. The reason for the motorman's failure to stop could not be established, but Colonel McMullen is satisfied that the very complete braking equipment was in proper order. He found also that the constructional and decorative materials of the car were not open to criticism. Nevertheless, as a result of his discussions with the Corporation engineers, some improvements are to be made to the remaining cars, although all will have disappeared in three years' time. The report must necessarily be of importance to traction engineers generally, bound as they are to take every care to keep fire risk to the minimum.

Paris Metro Signalling Improvements

AUTOMATIC signalling has been in service on the Paris Métro from the opening of the first section in 1900, when a system controlled by wheel-actuated treadles was installed. In 1922 the first application was made of a.c. continuous track circuiting, since extended throughout the 14 separate routes, including the original " Nord-Sud " lines, which at first had an " intermittent " system using short lengths of d.c. track circuit at each signal. Since May, 1955, the red-yellow-green system of aspects has been used and considerable progress made in modernising the apparatus generally, using improved wiring, plug-in relays and relay interlocking at terminals, which nowhere have extensive layouts. Apart from the Sceaux Line, once part of the Paris-Orleans Railway, the signalling of which is special, there are only two running junctions on the Métro, but 30 spur connections over which vehicles reach repair shops, or work trains operate. Their points are hand-worked and until recently such connections had no signalling but were operated under special strict regulations. Some have now been equipped with full signalling and electrical point locking, which will be extended.

French Special-Wagon Development

CONSIDERABLE orders have been placed recently in France for special wagons designed to give speedy and convenient loading and unloading. They are of several types, but by no means all of these have been fully proved in large-scale practice; indeed, only the order placed with A.N.F. seems to come within that category. These orders have been placed by a company in which the S.N.C.F. has a major financial interest, and which is known as E.V.S.—Soc. d'Etude et d'Exploitation de Wagons Spécialisée. In the first place an order for 100 S.E.A.G. type sliding-side wagons has been given to Aciéries du Nord de France, and these are being allocated to three different transport organisations catering for particular kinds of traffic. Another 100 sliding-side type wagons have been ordered from the S.N.A.V. at Vénissieux, a Schneider subsidiary company. Finally another order for 100 wagons with roller-shutter type sides has been placed with the C.I.M.T. (Cie Industrielle de Matériel de Transport) at Rhondelle. Already some hundreds of sliding roof wagons, mainly of S.E.A.G. type but with some of McGregor-Comarain pattern, are in use, but now a move has been made to the sliding-side form with fixed roof.

The Burden of Management

THE weight of the responsibilities and obligations associated with positions of high authority in industry and commerce is stressed by Mr. Harold Wilmot, Chairman of the Beyer, Peacock Group and Vice-President of the British Institute of Management, in the Fifth Elbourne Memorial Lecture, entitled " The Management Burden," given to the Institute last week. His remarks are of special interest to men of high rank in the railway industries as the fruit of reflection over many years' service in senior positions in the locomotive building industry.

Important aspects of the heavy burden which he discusses are the obligation on the manager to think and plan, to manage, to inspire, to reward or punish, and to replace or renew managerial staff. The duty of management at the highest level to think is augmented by the need to decide on action and to plan in the light of policy which is often laid down by the board of directors in general terms, so as to give the manager maximum freedom of operation. This requires " cloistered enquiry, evaluation, selection, and plan-initiation," between which and control of a business operating at full pressure, the manager must transfer his energies from time to time. This increases the strain. If ways can be found of lightening the burden of inter-dependent strategy, tactics, logistics, and leadership, many good managers will perform with at least equal merit as they have done under stress, but over a longer period and with greater comfort.

Managerial authority requires self-discipline on the part of the manager, largely as an example to subordinates, besides disciplining others. As an example of industrial indiscipline Mr. Wilmot mentions unofficial strikes. Experience has led him to conclude that more than one-half of industrial disputes are unnecessary. They are often caused by delay in dealing with complaints—a matter for managerial discipline. He makes some helpful suggestions on ways of maintaining good management-worker relations and on rapid allaying of discontent. The need for quick settlement of grievances with rough justice, perhaps, but without weakness imposes a considerable mental and moral burden.

To inspire others, the manager must have intense convictions and not vacillate when he sees both sides of a question. Contagious enthusiasm must be accompanied by serene self-confidence. He must be a master of the art of communication. In this field, Mr. Wilmot outlines what he calls the leap-frog system of communication. Many railway managements will find this useful. The manager explains his approach to a problem not only officially to his immediate subordinate managers, but also unofficially to the rank next below; and he ensures that this procedure is followed down the line of command. The benefits of this system include appreciation that orders are not merely the whim of the immediate superior. This increases the coherence of the management team and prepares the way for that degree of delegation which is desirable but can be unnecessarily dangerous in the absence of adequate coherence. The leap-frogging downwards engenders a two-way respect which helps to make promotion a swift and relaxed exercise. Adverse conditions require tenacity of purpose in management to reach heights of achievement which are the central justification of authority. The great effort involved and the success are too frequently forgotten.

Replacement of managerial staff is made difficult by the scarcity of high-grade human material. One way of attracting the right type of young entrant is to ensure that educational authorities, and so on, and the informed public, realise the

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beneficent nature of management and the great qualities needed in those who serve as managers. Great care, patience, and wisdom must be exercised by management to ensure that throughout the organisation the recruit earmarked for promotion is accepted, welcomed, properly initiated, and encouraged.

The strain on management often causes fatigue resulting in reduction of efficiency, and even serious illness. These could be prevented, Mr. Wilmot suggests, by alleviation of the heavy tax burden by the Government, which should be conscious of the great value to the nation of good management. He quotes figures which show how badly mulcted is the executive who is paid what might seem to some a high salary. The levels of taxation are an unfair additional burden. Attention to physical health, freedom from worry, adequate open-air pastimes, and some restriction of office hours can help to lighten the burden of the man who must always stand alone, too often under-paid and unappreciated and disparaged, but always responsible.

British Railways Electrification Conference

SINCE 1956, when the British Transport Commission adopted the 25-kV. 50-cycle a.c. system of electrification as a standard for all future projects, except for extensions to the Southern Region network, there have been several significant developments of material advantage to the efficient operation of high-voltage a.c. traction, and, as might be expected with a relatively new system, some drawbacks have emerged. Not the least of these is the complicated equipment needed for the protection of associated signalling circuits.

To show railway administrations throughout the world what British Railways is achieving in a.c. electrification as well as to exchange views with them on the problems which have to be met, the B.T.C. has decided to call a conference next year of railway engineers from almost every country in the world. It will be known as the "British Railways Electrification Conference, 1960," and will take place in London during the first week in October. A series of papers will be given covering all the new technical developments in a.c. electrification on British Railways and the visitors will be taken by train to see sections of electrified line which will be either already in operation next autumn or in various stages of completion. It is understood that the complete documentation of the proceedings will be a unique and exhaustive compendium of modern experience in this field.

The British electrical manufacturing industry is co-operating with the Commission and will join it in staging an exhibition of railway electrification equipment and rolling stock at the same time as the conference. This exhibition, which will be held at British Railways Battersea Wharf, London, will be the largest and most comprehensive assembly of electric rolling stock and railway electrification equipment yet displayed in this country.

Arrangements for the conference and exhibition are being made jointly by the B.T.C., the British Electrical & Allied Manufacturers' Association, and the Locomotive & Allied Manufacturers' Association. The two manufacturers' organisations are also planning to follow the conference with a series of inspections of many of their members works where the visitors will be shown locomotives and electric traction and electric supply equipment in production. It is hoped that this will foster interest in the achievements and skill of the British electric traction and locomotive industries to the advantage of their already high export trade.

Ballast Tamping

METHODS of ballast tamping and new types of mechanical tamper are described by Mr. D. C. G. Walker, Assistant (Work Study & Planning) to the District Engineer, St. Pancras, British Railways, London Midland Region, in his recent paper to the London Section of the Permanent Way Institution. Summarising the main considerations in tamping, he explains that differential settlement of track laid on stone ballast, as the ballast is compacted by the passage of trains, causes the familiar faults in top and cross level and leaves voids beneath some sleepers. During the first few days after track renewal, when the rate of settlement is greatest, speed is usually restricted over the length. Conventional methods of correcting these faults by hand accept the compaction produced by settlement under traffic as the best way to produce a firm support. Efforts are confined to placing additional material on the already compacted ballast mould to adjust the level of support.

The first types of mechanical tampers sought to imitate the action of the beater packing. These tampers resemble a road drill with a blunt T-head steel which delivers about 90 blows a min. to the ballast at the bottom of the sleeper with a force similar to that which would be produced by a man with a beater. The type of mechanical tamper which has been most widely used is that which Mr. Walker describes as having a "vibrate and squeeze" action. The use of vibration (about 2,000 blows a min.) causes the ballast to flow into a closer arrangement of particles, and by combining this with a squeeze it is possible to obtain the result more quickly and to control the formation of the ballast mould. The power required is considerable and machines of this type are large and mounted on the track. The familiar standard Matisa machine was produced in Switzerland about 1930 to meet the special requirement for packing hollow steel sleepers.

In new work, it is possible with the Matisa type of machine to accelerate the initial compaction beneath the sleepers after re-laying or ballast cleaning. Smoother running results from a more uniform settlement. Mr. Walker suggests that some relaxation of the normal speed restriction after renewal might become possible. This type of tamping can be done immediately after re-laying, and so on, except that it is not easy to arrange the ballast hopper train movements to enable the tamper to work effectively.

In maintenance, the action of the tamper on established track must destroy the compaction in the ballast so as to reform it. The disturbed ballast is then compacted against the underside of the sleeper by the tamper. The main difficulty, he maintains, lies in the varying nature of the supporting material in established track, as these hidden variations cause the ballast to behave differently under the action of the tamper. The object is to produce a uniform support. It is not possible to recognise degrees of compaction at the time of tamping with the methods normally available. Reliance must be placed on experience of the period of time that elapses before the work has to be done again and this must be related to what can be observed.

The Matisa machine applies its squeeze mechanically by means of left- and right-hand threaded shafts. The operator is taught to recognise a change of vibration that can be felt on the machine when the ballast has been compressed to "minimum volume." Further compression may cause the rail to lift or the ballast to flow along the length of the sleeper. Adjustable stops which limit the sweep of the tines are also used and the stroke is repeated if necessary. Another tamper, the Plasser, applies the squeeze hydraulically. It is argued that the achievement of minimum volume will be associated with an increase in the reaction of the tines. This machine, therefore, includes a device which stops the closing of the tines at the achievement of a pre-set oil pressure. With both machines it is possible to produce accurate track without having achieved minimum volume in all the ballast moulds. This will be revealed later under traffic when local settlements occur and the work has to be done again. Measuring the degree of compaction in ballast, Mr. Walker suggests, might be well worth investigation. That it can be recognised by a change in vibration suggests that some sonic instrument might be developed which could be made to control the machine.

None of the machines at present available can be regarded as automatically achieving what is required, but good operators can use them with excellent results. They must recognise that each sleeper end may require slightly different treatment and that it will also normally be necessary to return to the work after traffic has passed over it for a few days to make a few local fine adjustments. The quality of the work can be recognised by measuring errors in the track after a short period under traffic.

On many Continental railways tampers are owned and operated by contractors. A system of measurement of errors after a set period, normally one week, and comparison of the result with specified tolerances lends itself to control of quality. The parts of the work that do not meet requirements are done again and payment is related to result.

In the London Midland Region engineers have measured some of the work being produced by tampers and have recorded the treatment required to bring certain test lengths of track to a satisfactory standard. Examples of the different conditions found in practice were selected for these tests. The method of measurement was: (*a*) Cross levels were measured at intervals of three sleepers (about 7 ft. 6 in.), and the error noted in units of $\frac{1}{16}$ in. (canisters); (*b*) the rate of change of error in cross level was also noted; (*c*) on some test lengths the "top" has also been measured and any irregularities and errors noted (normally it was accepted by eye); and (*d*) voids were noted by sounding the sleeper ends and measured by void meters. This system can also be used to compare results achieved by different equipment and methods. It is considered essential in the L.M. Region that experience of the behaviour and treatment of track in different circumstances be made available to tamper operators and permanent way inspectors.

In this country, Mr. Walker observes, tamping machines have so far only been used to supplement normal length gang maintenance. Because of the difficulty of obtaining possession of the line they have been operated on Sundays and sometimes at night. In France and elsewhere tampers work between trains on weekdays, though M.S.P. is still used. On certain sections of the German Federal Railway all track maintenance packing is now done by these tampers. They work between trains on weekdays during intervals of 15-60 min. The main lines are tamped once every 12 months and the branch lines once every two or three years.

As to the British Railways plans to use long-welded rails extensively, there is reason to think that tamping is likely to give a more satisfactory method of packing for this type of track than M.S.P. The restriction of tamping to a limited temperature range when the track can be supported on jacks is likely to be a great nuisance when planning the use of tampers. The German Federal Railway allows tamping with use of jacks to be carried out at a temperature up to 100°F. and this may be possible because of the German practice of forming a ballast ridge along the sleeper ends.

Ghana Railway & Harbours Report 1957-58

THE report for 1957-58 of the Ghana Railway & Harbours, a copy of which has been received from Mr. H. F. P. Plumridge, General Manager and Harbours Authority, shows that before making provision for renewals but after meeting charges in respect of police, medical, health and other services, and pensions contributions, the Administration as a whole made an operating surplus of £G702,238 to which the Railway contributed £G174,188, Takoradi Harbour £G459,796, and Port Services £G68,254.

Allowing for renewals contributions, interest and sinking fund charges, and credit balances brought forward, including £G100,000 from Railway Reserve Fund resulted in a debit balance of £G37,238 being carried forward on Railway Account and net revenue credit balances of £G3,922 and £G195 on Takoradi Harbour and Port Services respectively.

Below are compared some of the principal results:

	1956—57	1957—58
Railway—		
Goods tonnage	1,924,897	1,846,195
Passengers	4,996,168	5,189,427
	£G	£G
Goods receipts	3,052,888	2,746,443
Coaching receipts	595,128	635,266
Total gross receipts	3,780,645	3,527,951
Operating expenditure	3,038,729	3,353,763
Surplus of receipts	741,916	174,188
Net earnings	165,105	−389,852
Takoradi—		
Revenue	1,122,391	1,088,915
Expenditure	613,944	629,119
Other Ports, and so on—		
Revenue	165,353	174,711
Expenditure	100,392	106,457

Compared with the year 1956-57, the Railway suffered a reduction in its operating surplus of £G567,728 and after paying all charges showed a net deficit on the year of £G507,929 as against a surplus of £G47,028. This unfavourable result was mainly because of the smaller cocoa crop which led to a drop in the tonnage railed of 24,226 tons and a corresponding decline in revenue of £G234,246. Other important decreases were in building materials and manganese. There were increases in the tonnages railed of timber and bauxite. Working expenditure increased by £G315,034, chiefly as a result of salary and wage awards which took effect from July 1, 1957. The number of passengers carried increased by 3.87 per cent (first class alone 9.3 per cent), leading to an increase in the revenue from this source from £G545,579 to £G581,087.

During the year ending June 30, 1958, orders were placed by the Administration for 18 1,425-h.p. and 12 750-h.p. main-line diesel-electric locomotives, the former of Henschel manufacture with G.M. engines, the latter of English Electric manufacture. Also six Henschel diesel-hydraulic shunting locomotives were ordered. As no funds were available for appropriation to the Betterment Fund, Government loans were considered as the inevitable means of financing essential projects in the railway new works programme. There was a sharp increase in the number of collisions and derailments, from 2 to 32, and where staff negligence was the cause it was dealt with severely.

Substantial progress was made with the new Tema Harbour near Accra, which will have facilities capable of holding four ocean-going vessels. At the end of the year the main breakwater was 7,203-ft. long, 41 per cent of the total, and the south breakwater was 1,160 ft. long (67 per cent complete). Quay No. 2 was virtually completed as were some of the transit and cocoa sheds. The completion period for the contract has been extended to December, 1960. The number of vessels cleared at Takoradi was 1,261, an increase of 159.

London Midland Region Electrification

NOW that work is nearing completion on the electrification of the line between Manchester and Crewe, British Railways, London Midland Region, at 25 kV. 50 cycles a.c., attention is being turned to the main Liverpool-London line. Preliminary engineering work has been going on over the Liverpool-Crewe section for the past two years during which much of the track has been re-laid and re-ballasted, many miles of drainage completed, cuttings have been widened, the track re-modelled, and station platforms reconstructed.

Preparing the track for the new, high-speed electric services is an immense engineering task. The entire track must be laid on deep ballast to ensure smooth running and suitability for the stresses imposed by sustained high speeds. Between Liverpool and Crewe alone, some 60 bridges will have to be altered, and on the whole of the main line between London, Birmingham, Manchester and Liverpool, nearly 800 bridges have to be raised, repaired, or strengthened.

With the re-appraisal of the railway modernisation plan, recently announced, work is now to take place all along the Liverpool-London main line, instead of in separate stages as was originally planned. The effect of this will be to bring forward the date for electric services to London to 1964-65, instead of 1968-70, but the difficulties are tremendous as the railway has literally to be re-built under traffic. Work on the Liverpool-Crewe section is well in hand under the original plan, but now engineering work has commenced at several other places down the main line, and will continue until completed in 1963. Engineering work has already started along the main line between Stafford and Rugby, Bletchley and Roade, and Crewe and Norton Bridge, near Stafford. The intensive nature of this work all along the line is the reason for the extra time added to the Liverpool-London trains in the new timetable which came into effect on November 2.

The particular difficulties to be encountered on the section between Liverpool and Crewe fall into two categories. First, engineering problems presented by such circumstances as the solid rock floor to the cuttings between Lime Street and Edge Hill, and the long stretch of overhead viaduct at Runcorn.

The second problem causes the greatest amount of work. This is the vital need for co-operation and co-ordination between the many departments of the railway involved in the operation—the civil engineers, the electric traction engineers, the signal engineers, the train operating, and motive power departments. In the first place, the engineers must have occupation of part of the line, sometimes for long periods, to carry out their work. This means that fewer lines are available for running trains, and a great deal of careful planning is needed to avoid delays. In addition, the engineers require special trains to carry their materials, and the necessary wagons—

often of special types—have to be marshalled and despatched to wherever the engineers require them.

The running of these extra trains, coupled with the loss of running tracks while the engineers are working, creates very real difficulties for the train operating staff. Minutely detailed as the planning has to be, it must still be flexible to allow for last minute alterations which sometimes are bound to occur. The result of this detailed planning is that British Railways is confident that in spite of all this extra work taking place, delays to passenger trains will be kept down to a remarkably small level.

Well over £1,500,000 worth of engineering work has already been completed between Liverpool and Crewe. Many miles of track have been deep re-ballasted, and deep drainage installed. Several miles of cuttings have been widened; platforms at many stations are being reconstructed or extended.

The whole of the line between Liverpool and Crewe is to be completely re-signalled. The existing mechanical signalling will be replaced by colour-light signalling and continuous track circuiting. In addition, telecommunications all along the line will be modernised. On signalling and telecommunications alone between Liverpool Lime Street and Crewe, the cost will be in the region of £2,500,000.

When the whole of the Liverpool-London line is electrified, express trains will make the full journey in just under 3 hr. Until that time diesel-electric locomotives, now in service on the line, will continue to haul passenger trains to avoid delays through changing engines at Crewe. The Liverpool-Crewe electrification will be complete in 1961, and immediately a much improved service will be in operation. The kind of service which it is hoped to put in will be a two-hourly stopping train to Crewe, running hourly at peak periods, and a half-hourly local service between Allerton and Liverpool. These services will be operated by electric multiple-unit sets. Express services to Crewe will be provided by some of the London-Birmingham West of England trains, which, together with the stopping trains, should provide almost an hourly service. Times for the journey will be much shorter; for instance, Crewe non-stop will be 40 min. compared with around 60 min. at the moment.

A scheme of this magnitude cannot be attempted without causing some inconvenience to the travelling public, but the advantages accruing from electrification will far outweigh the disadvantages occasioned by the engineering work. In the meantime local services in the North West will be considerably improved by the introduction of diesel railcars during 1960.

LETTERS TO THE EDITOR

(The Editor is not responsible for opinions of Correspondents)

The Stephensons' Railways

October 27

SIR,—In the editorial article on Robert Stephenson in your October 9 issue, you said " the object of the Stephensons was to make a railway which would pay."

A feature of early railways was that many stations were some distance from the towns they were to serve. This feature seems more in evidence in railways constructed by the Stephensons than those built by other engineers. Take two examples: The Manchester terminus of the Manchester & Leeds was so inconveniently placed that a new station was built a few years later. The line passed between the two important towns of Oldham and Middleton, skirted Rochdale, missed Halifax, Huddersfield and Dewsbury, and skirted Wakefield. The Derby station of the North Midland was, and still is, inconveniently placed. The line skirted Chesterfield, entirely missed Sheffield (through which the main line was taken afterwards), passed to the west of Rotherham, and missed Barnsley and Wakefield. The Leeds terminus, like the Manchester terminus of the Manchester & Leeds Railway, had to be replaced by a more conveniently placed station within a few years.

I am sure those now responsible for trying to make these two parts of British Railways pay must often reflect on the Stephensons' lack of vision.

Yours faithfully,

J. C. BOUSTEAD

Stokesley, 29, Hillview Road, Hatch End, Pinner, Middlesex

Weed Control

October 29

SIR,—In his excellently illustrated article in your October 16 issue, Dr. Hartley's contention that experience with chemical methods of railway weed control in Switzerland is more directly applicable here than experience in U.S.A., is surely a case of wishful thinking. Much of the work on simazin and related herbicides has been carried out in Switzerland under climatic and vegetation conditions differing considerably from those in Britain. In particular, soil temperature over the winter months and, therefore, the rate of breakdown of weedkillers such as simazin and monuron in soil will generally be significantly lower in Switzerland than here. This is important in any weed control programme aimed at maintaining a sufficient level of chemical in the soil to prevent growth over a number of years. While it is evident that a country which takes in sub-alpine and Mediterranean vegetation will have some weed problems similar to ours, as a whole experience in Switzerland is no better, or worse, a guide than experience in many parts of the U.S.A. The annual reports of the Association of American Railroads cover over 20 railroads operating from Mexico to Canada.

Dr. Hartley hopes that the use of persistent herbicides will reduce the necessity for disturbing ballast by mechanical track cleaning, pointing out that the full benefit of the herbicides will not otherwise be obtained. Is it not the case that re-ballasting is carried out more frequently for other purposes? A recent paper on railway weed control in New Zealand estimated that over the course of a year, in any 100 miles of track a few miles are likely to be re-laid, 5-10 miles re-sleepered, 10 miles re-ballasted, and of the balance, 10 per cent or more disturbed by other operations. Are any figures available for British Railways? It is reasonably clear that any herbicide insoluble or otherwise will be carried through well-drained stone or gravel ballast by rain water. This raises some interesting questions on the relative importance of shallow and deep rooting weeds and the rate of deposition of water or airborne " soil " or other material which will support plant life. Dr. Dancaster, in an article written for *Chemical Age* in 1950, indicated that while deep rooting weeds are liable to be predominant, shallow rooting species are certainly important in some areas.

The effects of herbicides on electrical track circuits seem to have caused concern in a number of countries. The best criterion would seem to be whether the herbicide solution as applied increases the conductivity of rain or ground water to a significant extent.

Borax is not as soluble in water as Dr. Hartley suggests, and for soil sterilisation off-track, crude sodium borates with a low rate of solution have been used in increasing quantities in the U.S.A. over the last few years.

Yours faithfully,

D. MONTGOMERY

Borax Consolidated Limited, Carlisle Place, S.W.1.

ACCELERATED EXPORT CONSIGNMENTS PLAN EXTENDED IN L.M. REGION.—Special arrangements for despatch of small consignments for export by British Railways in the Birmingham district have now been extended to include Coventry, Nuneaton, and Tamworth in the London Midland Region. Traffic for export will be despatched by special cartage service to Birmingham to connect with the fast goods trains to the ports.

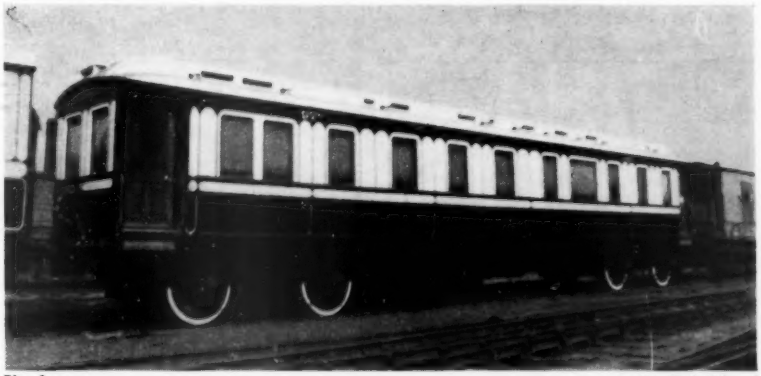
THE SCRAP HEAP

Aspirant Railway Employees

One of the first tasks in constructing the East African Railways & Harbours training school on the outskirts of Nairobi was to put up a wire fence to keep out wild animals. The Principal, Mr. D. D. Nuttall, recalls that in early days some animals still broke through to disturb the night.

Duke of Sutherland's Saloon Preserved

The private saloon formerly used by the Duke of Sutherland for travel to and from Scotland is being preserved. The illustration shows the vehicle at Nine Elms Goods Depot, Southern Region, en route from Wolverton Works, London Midland Region, to the London Transport Executive depot at Clapham which is to be used for housing railway and other vehicles of historical interest. The depot is not rail served, and the saloon was moved from Nine Elms by road.



Photo] [*A. Earle Edwards*

Duke of Sutherland's saloon at Nine Elms, en route from Wolverton Works to Clapham

Television Talk

Sir Brian Robertson, Chairman of the British Transport Commission, recently spoke on a closed television circuit to about 800 staff from B.T.C. Headquarters and the Eastern Region, assembled in several large rooms. He spoke about the future modernisation plans for British Railways. A film made at the same time will be shown to British Railways staff of all Regions during the Autumn and Winter.

Ruritanian Railway

The B.B.C. television service is reintroducing on November 13, the popular model railway feature, "The Story of San Marco." San Marco is a small imaginary state, somewhere in central Europe, and rail traffic from neighbouring countries—Germany, France, Switzerland, Italy, and Austria—passes over the San Marco tracks. This story-idea provides the excuse for showing many splendid Continental railway models in action.

Tradition in Danger

Whatever may be the rights and wrongs of the dining-car attendants' strike, in resisting change they are striking a blow for our British way of life. There are small but unmistakable signs of improvement in the railway restaurant services, of a steady erosion of old tradition.

Last time I ate a railway luncheon, the tinned soup was hot, the boiled potatoes served with the tinned ham were practically edible and the steward had actually removed the wrapping from the threepenny choc-ice bar served as a sweet course.

These are small matters. But they may be the first trickle which will swell to a flood, submerging landmarks and sweeping away the age-old individuality and charm which make a British Railways meal a thing of ghastly beauty.—"*Peter Simple*" *in* "*The Daily Telegraph.*"

Dulcet Tone

Villagers at Loders, near Bridport, Dorset, have complained to British Railways about the blaring noise of diesel train horns on a service which has been operating between Maiden Newton and Bridport for two months. They say they had no complaint about the old steam engine whistles. Heading the complainants is Sir Edward le Breton, Lord of the Manor of Loders, and a member of Bridport Rural Council. He has enlisted the support of his council in pressing for "a more musical tone, possibly a three-tone horn—more in keeping with the Loders locality."

Wapping Station in 1870 and Today

Thames Tunnel at south end of station (from the "Illustrated London News" of January 8, 1870)

L.T.E. Metropolitan Line train of District Railway "F" stock in the same place in 1959 (*see editorial note in our September* 11 *issue*)

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

EAST AFRICA

Dredging Survey at Mombasa

East African Railways & Harbours have just started work on a survey for the dredging of the harbours and approaches at Mombasa which will be used by tankers going to the £15,000,000 Shell and B.P. Oil companies refinery to be built at Changamwe. E. A. R. & H. will spend altogether some £1,000,000 on a new oil jetty there and for the dredging work. When the whole scheme is finished tankers up to 70,000 deadweight tons will be accommodated.

The first part of the agreement to build a refinery at Changamwe was signed recently by Sir Evelyn Baring, the Governor of Kenya, and Mr. E. E. Hudson, representing Shell and B.P. groups of companies. E. A. R. & H. have made 236 acres of land available at the site and have granted wayleaves for pipelines to the tank fields.

RHODESIA

Bulawayo—Mahalapye Line

Rapid progress is now being made with arrangements for the take-over on December 1 by Rhodesia Railways of the operation of the line from Bulawayo to Mahalapye. Already R.R. engineering staff are responsible for track and works maintenance as far South as Francistown, and this part of the take-over to Mahalapye will be completed by mid-November. At Mahalapye, which will become the R.R./S.A.R. interchange point, additional tracks are being constructed to accommodate the exchange of trains between the two railways. The last work of the South African Railways maintenance team will be the renovation of Palapye Station. Other work now in hand includes the building of 17 new houses by contractors and the re-siting of four prefabricated houses.

There has been a 100 per cent response from the existing S.A.R. African staff to join the R.R., and the R.R. conditions of service have been accepted. The change will affect some 420 Africans, the bulk of them being track labourers. A new timetable based on 10 trains a day in each direction has been worked out linking Rhodesian and South African operated trains at the Mahalapye interchange station. This is now with the printers.

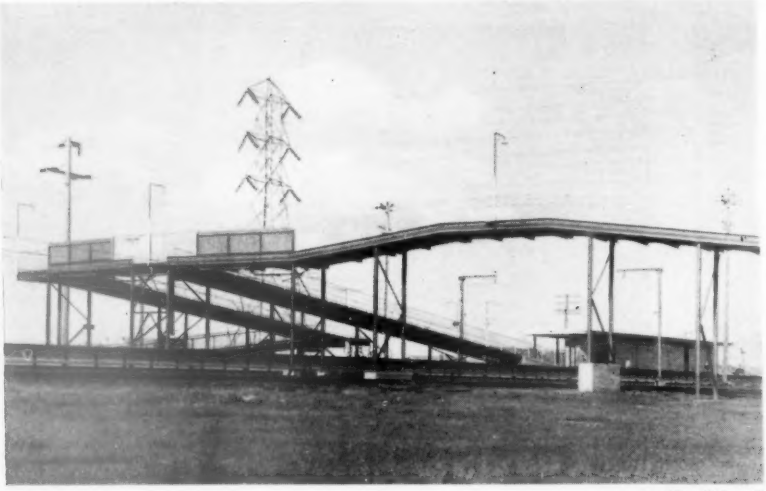
VICTORIA

New Station at Jacana

Rapid expansion is expected to take place during the next 10 years in the Broadmeadows area, and a new station was opened on the line early in the year. It is located 9½ miles north of Melbourne between Glenroy and Broadmeadows and has been called Jacana. The word is an aboriginal one meaning native bird. The station consists of an island platform and the usual buildings, but is of special interest in that it is built at the point at which the future standard gauge railway will leave the main line and has a specially designed footbridge because of this.

The present route from Sydney through the suburban area is directly south over the main line from Broadmeadows to Melbourne. The standard gauge route is to be alongside the Broadmeadows-Albion goods line which swings away from the main line through the western suburbs. The physical junction between the main line and the goods line is at Broadmeadows, but the two lines run parallel for about a mile or so as far as Jacana when the goods line, which is on the down side, swings away to the south-west.

The standard gauge line from Albury is being built on the up or eastern side of the main track, but when it reaches the suburban area near Jacana it has to cross the main line to swing south-west. Future standard gauge trains, therefore, travelling southward from Broadmeadows, on the up side of the main track, will cross the latter, presumably by fly-over, to the down side just before reaching Jacana, but when passing the station there, will be on a slightly higher level than the main line. Because of this the footbridge at Jacana has been built with a hump in it to allow the higher level standard gauge trains to clear it.



Photo] [Guy Bakewell

New suburban station at Jacana, showing rise in the footbridge for future standard-gauge line to pass at a higher level

NEW ZEALAND

Increased Use of Containers

With claims for freight damage running higher than £100,000 a year, the Railways Department is looking for better ways of handling goods. Experiments with special metal containers have been going on for three years and departmental officers believe their wide-spread use will reduce the number of claims, and give a better service. Containers are being used for all household removals. Besides reducing the risk of damage, they save time and effort in packing and reduce handling costs at intermediate points. For household removals between the North and South Islands, the containers are particularly valuable. They allow the department's rail-air link to give the door-to-door service of road transport operators. This means much to the department and the public, for rail-air service handles more than 1,100 inter-island household removals a year.

CANADA

"Continental Limited" Re-routed

Among autumn and winter timetable changes which went into effect on October 25 on Canadian National Railways was a re-routing of one of its passenger expresses, the "Continental Limited." Between Saskatoon and Edmonton, the train is now routed via North Battleford, leaving the "Super Continental" to travel the route via Biggar and Wainwright. The change was made in recognition of the growing importance of those communities which the "Continental Limited" will serve on its new route.

ARGENTINA

Diesel Locomotive Deliveries

Delivery is expected from the United States later this year of 11 diesel-electric locomotives for use on the General San Martin Railway. The locomotives, which are to be built by the International General Electric Company Locomotive & Car Equipment Department, Erie, Pennsylvania, will be used to haul oil tank wagons between the oil fields near Mendoza to coastal refineries in the Buenos Aires area.

Approximate value of the locomotives is over $2,500,000. The 11 locomotives will be of the universal type. Each unit will deliver 1,980 gross h.p. The loco-

motives will be equipped with multiple-unit controls which will allow operation of two or more units in tandem from a single cab by one operator.

Failure of Japanese Contract

The $50,000,000 contract which was to have been signed with the Marubeni Iida Trading Company, of Osaka, for the supply of 100,000 tons of steel rails and 350 coaches has been cancelled as a result of difficulties in financing the payments.

UNITED STATES

Boston's Suburban Traffic

The former Newton Highlands branch of the Boston & Albany R.R., nine miles long, has been acquired by the Metropolitan Transit Authority of Massachusetts, and has been connected with the Boyleston Street section of the Boston subway lines, at a point about two miles from the city centre, by a short tunnel and incline 383 yd. long. The branch has been re-laid and re-ballasted, and equipped for electric operation. A new station has been built at Reservoir, with a turning loop, and the other stations have been rebuilt and provided with ample parking space for private cars. New electric signalling has been installed to permit of an intensive train service.

As the Newton Highlands branch had been closed for 13 months before the new service began, the latter had to win back the commuter traffic which had transferred to other means of reaching the city. This is being done by lower fares, a more intensive and speedier service, and trains throughout the day instead of during the rush hours only. Whereas the number of passengers using the branch had shrunk to 3,000 daily when the service closed down, it is expected that at least 10 times that number will use the service when it has become fully established.

This suburban improvement in Boston has coincided with the closing down of Boston's Old Colony suburban line of the New York, New Haven & Hartford Railroad, because of heavy losses, compelling 10,000 daily users to find other means of transport.

Erie-Lackawanna Merger

The plan for amalgamating the Erie and the Delaware Lackawanna & Western Railroads as the Erie-Lackawanna Railroad Company has now been put formally to the Interstate Commerce Commission. The merger would create a system extending over 3,119 route miles (Erie 2,201 miles; Lackawanna, 918 miles), with total assets of approximately $737,000,000. It is proposed that Erie common stockholders shall receive a 1¼ share of common stock in the new company and Lackawanna shareholders for every share now held of the existing companies' stock. Erie preferred stock will not be affected, and interest on bonds and debentures of both companies will be a first charge on the revenues of the new company.

Consolidation of competitive passenger and freight facilities to avoid overlapping, and more intensive use of rolling stock, are expected to produce an annual saving of $13,400,000, after some $5,000,000 have been spent on facilities designed to make the most of the merger including a new electronic marshalling yard at East Buffalo, enlarged yards at Hornell and Jersey City, and new connections between the two systems.

"Coach" Class Sleeping Cars

All the railways which are introducing compartment sleeping accommodation for "coach" or second class passengers are finding it a profitable proceeding. The Missouri Pacific's "Thrift-T-Sleeper" cars on the "Colorado Eagle" between St. Louis and Denver have had nearly an 80 per cent occupancy in their first year of operation. They have earned $307,654 revenue in coach fares and $69,616 in Pullman supplements.

HUNGARY

Electric and Diesel Traction

The proportion of electric and diesel traction on the State Railways must be increased from 11 per cent in 1958 to 38-40 per cent in 1965, according to a report issued in Budapest, outlining proposals for the country's second five-year plan (1961-1965). While the proportion of freight carried by lorries is to increase, the priority of the railways must be maintained. The length of electrified lines is to be increased by approximately 186 miles.

EASTERN GERMANY

Demolition of Anhalter Station

Anhalter Station, Berlin's largest railway terminus for long-distance trains in pre-war years, is to be blown up in accordance with an agreement concluded between the management of the Eastern German Reichsbahn and the western occupation powers in West Berlin. What will be blown up is actually the remains of Anhalter Station as they emerged from the last war. No traffic has been handled there since that time and the station has been derelict all the time. Anhalter Station is, therefore, to share the fate of Berlin's other two large passenger stations, Potsdamer Station and Lehrter Station, both of which have been demolished.

Publications Received

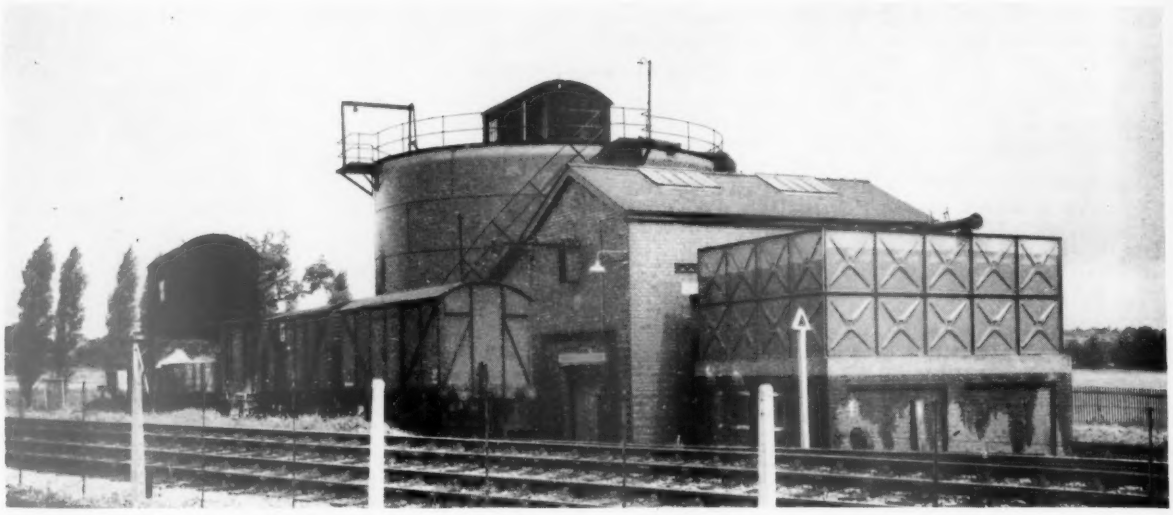
Facts and Figures About British Railways. London: The British Transport Commission, 222, Marylebone Road, N.W.1. 6½ in. × 4 in. 44 pp. Paper covers. Illustrated. Obtainable free on application. The information on many aspects of British Railways is set out clearly and concisely, as in previous years. A summary is given of facts and records in 1958. In that year, the foreword points out, modernisation of plant and equipment made remarkable strides; and despite the growth in the number of private transport vehicles, British Railways were able virtually to hold their own in passenger traffic. The summaries of works completed, in hand, and planned are clear, and there is a good deal of useful information on matters such as permanent way restrictions, and their effects on main-line speeds, resignalling, new diesel and electric motive power, work study, and staff training, education, and welfare. Brief particulars are given of the ancillary activities connected with British Railways such as Pullman car services, hotels and catering, passenger and goods, shipping and ferry services, and the British Transport Police Force.

Rubber-Tyred Tractors.—A tractor which can travel fast from job to job is described in a 16 page four-colour brochure issued by LeTourneau-Westinghouse Company, Peoria, Illinois, U.S.A., and available through local distributors. The 218 h.p. Model C Tournatractor is shown performing earth-moving, towing, pushing, and many other operations on rough ground. One illustration shows the Tournatractor working across railway tracks. The outstanding advantage claimed is the ability to travel by road at up to 17.2 m.p.h. under its own power as well as to exert a drawbar pull of 23,500 lb. at 2 m.p.h. Four wheels with large pneumatic rubber tyres take the place of the more usual tracks of a crawler tractor. The drive mechanism is shown cut away to illustrate the torque converter, the constant-mesh gears with air operated clutches, the air-operated multiple-disc brakes and steering clutches, and the crankshaft-speed generator for push-button operated a.c. motors at implement control points. Power is by G-M or Cummins diesel engine, both of which are specified in detail. There are 13 illustrations of the Tournatractor with optional implements attached, showing its versatility to meet specialised requirements in civil engineering and contracting.

Les Tramways Parisiens (*The Tramways of Paris*). Paris, 9e, by J. Robert, with preface by L. Devillers, General Manager, Paris Transport Authority. Paris, 9e, *La Vie du Rail*, 11 Rue de Milan. 297 pp. 10½ in. x 8¼ in. Profusely illustrated. Price 4,500 francs, postage extra.—Trams have disappeared from Paris but few capitals had at various times such a variety of systems of propulsion or types of rolling stock as are described in this work. They include cable, steam (with both fired and fireless locomotives), compressed air, battery, conduit and several forms of surface contact. Steam was sometimes used to haul electric stock where no overhead wires were permitted. The volume is a comprehensive record of a transport system which began in 1853 and ended in 1938.

Locomotive Feed Water Treatment on British Railways

Extensive network of lineside water softening plants in use in the London Midland Region



Perry Barr water-softening plant. On right of main reaction tank are the pumping house and storage tank

THE economic and operating advantages of locomotive feed water treatment on railways in Britain have been proved over the years. In the London Midland Region of British Railways the importance of this work has always been accepted by successive Chief Mechanical & Electrical Engineers and the greater part of the annual consumption of 8,300,000,000 gal. is treated before use. Throughout the Region there is a wide variation in the composition of the raw water supply. The present organisation has been built up over a number of years and the solution of the problems involved have been a long process.

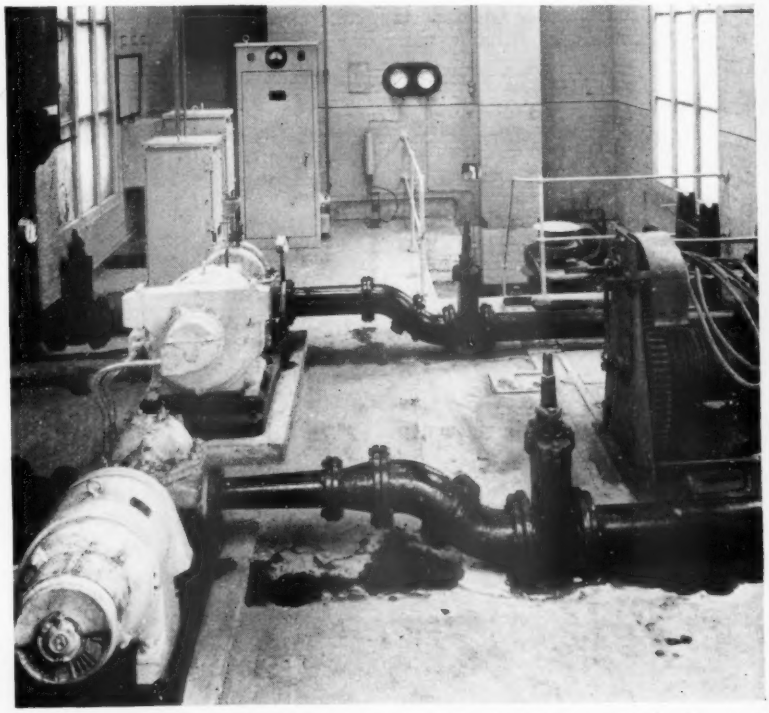
Based on the headquarters of the Chief Mechanical & Electrical Engineer, a section of the outdoor machinery engineer's staff deals with all matters of supply and treatment of water, and boiler water sampling. This section includes a Water Treatment Assistant, Chemist, and assistant chemists who supervise the chemical side of plant operation and supply of chemical reagents, and a Senior Technical Assistant responsible for engineering equipment. The effectiveness of the water treatment in keeping the boilers clean is reported by a Head Office Inspector and blowdown assistants. There are also district water softening plant inspectors and examiners.

Considerable importance is attached to the control of the blowing down, washing out, and inspection of boilers. This is to ensure that full advantage is taken of the water treatment applied. The treatment produces sludge in the boiler instead of scale, the sludge being kept down to a safe level by washing out and blowing down. Priming is largely eliminated by the use of a mixture of polyoxide and polyamide.

Treatment is carried out in lime soda softening plants, wayside conditioning plants, and briquette feeders. In the lime soda plants, of which there are 50 dealing with a total of 4,000,000,000 gal. a year, hydrated lime and sodium carbonate is used to precipitate hardness. The lime soda treatment is followed by after-treatment with boiler tan, Calgon, and anti-foam, at the softening plant or at the dispensing points.

Wayside Softening Plants

At wayside plants no hardness is removed, but the alkalinity is increased by the addition of sodium carbonate to allow the hardness to be precipitated as



North and south main distribution pumps. Sulzer borehole pump in background

sludge in the boiler. The after-treatment applied is similar to that used in the lime soda plants. There are 90 of these wayside plants, dealing with an annual consumption of 3,000,000,000 gal. The briquette feeders, used at 130 sites and providing treatment identical with that given at the wayside plants, are located where only small quantities of water are required. Phosphate briquettes are used for the low and medium hardness water and bicarbonate briquettes for the high hardness water.

The mechanical and electrical equipment has been developed to operate for long periods with minimum attention. At intervals of 12 months each plant is closed down, all tanks emptied, and all equipment inspected. At all softening plants provision is made for emergency treatment should the softener fail. In cases where raw water has to be used, chemical dosing can be increased at adjacent plants to compensate.

Softening Plant and Treatment

The softening plant and treatment at Perry Barr, near Birmingham, is typical of the equipment and processing used throughout the Region. The plant is operated, under the supervision of the District Outdoor Machinery Engineer's staff, by three day and one night attendants.

The hydrated lime and sodium carbonate, supplied to the plant in ½-cwt. and 1-cwt. bags, respectively, are stored in a compound alongside the mixing mill.

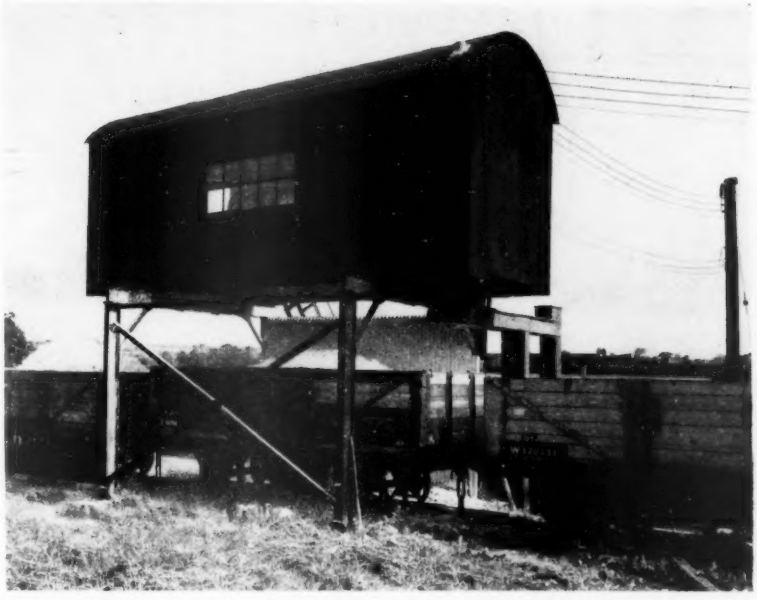
The latter incorporates a mechanical agitator. The charge rate is varied in accordance with the required concentration, an average charge being about 650 lb. of lime and 390 lb. of soda. A small percentage of sodium aluminate is added as a coagulant to the lime soda solution.

From the mixing mill the solution is transferred to a chemical storage tank. This has a capacity of 1,000 gal, or supply for 13 hr. The solution is pumped and metered by a motor-driven variable stroke pump, delivering to the top of the centre tube of a large reaction tank.

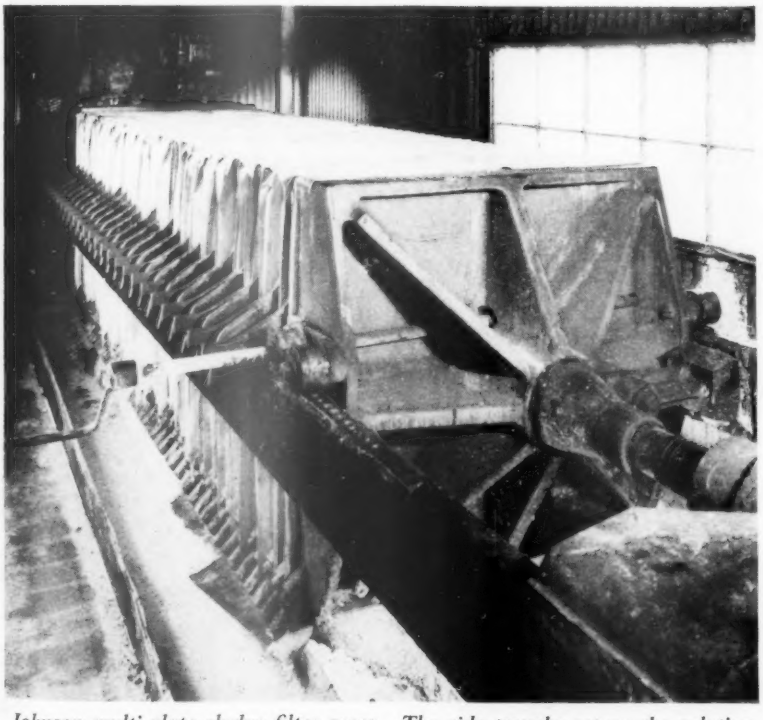
Raw water also is delivered to the same point by the bore-hole pump. The centre tube extends down to about 8 ft. from the bottom of the tank. As the raw water mixed with the chemical solution passes down the tube, reaction takes place and the sludge is precipitated into the base of the tank.

The softened water moved upwards outside the tube is collected in a series of troughs near the top of the tank. From the troughs it is discharged by gravity feed into a distribution storage tank. The borehole is 220 ft. deep. Water is drawn by a vertical centrifugal pump driven by a 60-h.p. motor. The average delivery, which is manually adjusted according to approximate demand, is about 25,000–30,000 gal. per hr. The automatic controls are operated by float switches in the storage tank.

The Perry Barr plant supplies softened water to water towers at locations up to 4¾ miles from the plant on the north and 4¼ miles on the south side. For the south side main a pump with a delivery of 333 gal. per min. at 90 lb. per sq. in. is used, driven by a 35-h.p. motor running at 1,440 r.p.m. Distribution through the main on the north side is by a 150 gal. per min. pump running at 2,900 r.p.m. This is driven by a 15-h.p. motor.



Filter press elevated to allow direct discharge of sludge into wagon



Johnson multi-plate sludge filter press. The side troughs return the solution to reaction tank

Treatment at Dispensing Points

In addition to the basic lime soda treatment the softened water is after-treated with boiler tan, phosphate, and anti-foam.

The phosphate in the form of Calgon is added in the reaction tank, but as drinking water is drawn from the Perry Barr main along the line the boiler tan and anti-foam are not added until the water reaches the dispensing points. Small doses of Calgon preclude "making-up" of pipelines caused by after-precipitation of the residual hardness.

The boiler tan absorbs dissolved oxygen in the water which if left would lead to

(*Continued on page* 397)

XUM

East African Railways Training School at Nairobi

Courses in transport subjects for various grades of multi-racial staff: method of selecting applicants for vacancies

(*By a correspondent*)

One of the student hostels in the grounds of the East African Railways & Harbours training school at Nairobi

THE railway training school of East African Railways & Harbours is situated in its own grounds of 55 acres on the southern outskirts of Nairobi. There are usually 560 students in residence, mostly young newcomers to the service, but also men already in the railway and harbour services taking promotion or refresher courses. The school is open to entrants of all races. The students, like the teaching staff, comprise Africans; Asians, both Pakistanis and Indians including Sikhs; and Europeans. Besides railways in Kenya, Uganda, and Tanganyika, E.A.R. & H. also operates harbours at the ocean ports and on Lake Victoria, and a shipping service on that lake and two other lakes, and catering services in many parts of its system. The school at Nairobi provides training for most branches of the undertaking. There are two smaller training schools, one in Tanganyika and one in Uganda.

Development of Training Facilities

The present school at Nairobi is the successor to others. The first railway training school in Nairobi was started in 1919 to instruct telegraphists for the railway and for the Post Office. Gradually other training was added and the school moved several times, always to bigger or more convenient premises. Meanwhile other training was given at the Nairobi Workshops, and at the Permanent Way Depot. The need for improved teaching and training facilities persisted and, largely under the inspiration of Mr. (now Sir) Arthur Kirby, the then General Manager of E.A.R. & H., and now Commissioner for East Africa in London, the new school was founded.

Building began in 1954, and the school was formally opened in June, 1956. It provides training in traffic and in mechanical and civil engineering and within its own grounds has hostels for all trainees, housing for instructors and administrative staff, and its own sports ground.

Construction and equipment of the school has cost almost £500,000. The scheme as a whole was designed by the Railway Architect and carried out by contractors under the supervision of the District Engineer of E.A.R. & H. The main building includes a hall, seating 550, used for examinations, instructions by film, and for recreation. On two sides of the hall are the wings containing class and instruction rooms, library, administrative offices, dining hall, and a shop.

The students' hostels are in separate long buildings, with a number of separate dormitories in each. Throughout the school all activities are multi-racial, classes, entertainment and sport, but there are separate hostels for the three different races, an arrangement which is adapted to the habits and customs of the country.

Training Courses

The longest courses last five years. Recruitment takes place at different educational levels according to the course and the appointments students are eventually to take up. All training is free, including the supply of books. The students receive payment with an annual increment but they pay about £4 10s. a month for their food. The starting

Students of different races at the training school at Tabora, Tanganyika

Instruction in traffic working at the Nairobi school, showing some of the lineside signs and other equipment used

pay ranges from £97 to £287 a year, according to the type of training for which students enter.

The age of entry varies from about 15½ to 18 years, in a few cases even up to 22. The age of entry is tending to become lower as educational facilities expand throughout East Africa. E.A.R. & H. has no difficulty in getting applications, although among some European boys there is a reluctance to join the railway service. In 1958, for example, there were 10,000 applications to enter the school but there was only place for the 150 who were finally accepted.

Selection of Trainees

The selection process, carried out as fairly and efficiently as possible, begins in districts throughout the three mainland territories and ends up with 300 applicants being interviewed in Nairobi. All teaching at the school is in English and a basic standard of knowledge of that language is the first test at which many, otherwise worthy, applicants fail. The only preferences in accepting applicants are for sons of employees and for serving employees. For most courses about 10 per cent more admissions are granted than the number of estimated vacancies for trained men at the end of the course, to allow for wastage.

Training includes theoretical and practical work at the school. Instruction is given, for example, to tradesmen such as fitters, turners, and machinists. Courses for enginemen include instruction in locomotive maintenance. Aspirant station clerks, assistant stationmasters, and guards are trained in traffic subjects. There are courses for office clerks, including refresher courses. Permanent way training includes a five-year course for foremen and shop floor supervisors. Practical work in some cases includes work in various departments of the railway outside the school.

Locomotive Feed Water Treatment on British Railways

(*Concluded from page* 395)

heavy attack of the copper components in the boiler.

The boiler tan also contains sodium nitrate, so that the nitrate/hydroxide ratio is maintained so as to prevent caustic embrittlement. This is a form of corrosion fatigue resulting from a combination of high stress and unsuitable water.

Anti-foam is added so that a fairly high concentration of dissolved solids can be maintained in the boiler without leading to priming difficulties.

Treatment Control and Testing

An essential of any water treatment procedure is a daily chemical check of the treated water and a regular, but less frequent, check of the raw water. For economy and speed, these checks must be made by the chemically-unskilled plant attendants.

To meet this requirement the London Midland Region has devised a simple test procedure and a well-organised daily report system. The softened water test, using colour indicators, is carried out as follows. A burette is filled with N/50 EDTA solution and a 70-cc. sample of the softened water placed in a bowl. To this sample is added 2 cc. of ammonia solution and one colour indicator tablet. The EDTA solution is added until the colour changes from red to blue. The reading shown on the burette, which indicates the hardness of the sample, is entered in the space provided on the postal report card. Similar colour change tests, using the standard acid and appropriate indicators, are carried out to determine the alkalinity and the calcium hardness. One copy of the completed report card is sent to the Chemist at Derby and one copy to the District Outdoor Machinery Engineer.

A test result showing a wide variation from standard would indicate a mechanical or operational failure of the plant and immediate action would be taken by the district engineer. All processing and chemical dosage to be used at each softening plant is specified by the chemist, and varied as required in accordance with the daily analysis report card. Close liaison is maintained with the C.M. & E.E.'s Chief Boiler Inspector on the condition of boilers as reported by the blowdown assistants and inspectors.

Sludge Disposal

From the base of the reaction tank the sludge is drained off through several stop valves into a sludge pit. The sludge is then pumped to an elevated filter room which straddles the wagon track.

The filter equipment is a horizontal multiplate sludge press. This is fitted with 48 plates 3-ft. square and a twin-ram reciprocating pump. The liquid extracted returns to the reaction tank and the sludge, when released from the press in the form of cake, drops into the wagon below. The average quantity removed per week is 25-30 tons. A proportion is sold for industrial processing. At a number of plants throughout the Region the sludge is conveyed from the plant in semi-liquid form in converted 2,000-gal. capacity tenders.

Some of the sludge is sold industrially as a neutraliser for acid effluents and the rest discharged into large settling lagoons. These require clearing at intervals of 5-6 years.

Previously, at some plants, the softened water was passed through sand and woodwool filters, but this practice has been discontinued owing to the frequent cleaning and maintenance required.

EASTERN REGION GALLANTRY AWARD.—Mr. H. C. Johnson, General Manager, British Railways, Eastern Region, on October 26, at Liverpool Street, presented a certificate and canteen of cutlery to Fireman J. P. Elliott, of Doncaster Motive Power Depot, in recognition of his courage in isolating a burning wagon. On April 29, with Driver C. Kidd, Fireman Elliott was working the 7.30 a.m. goods train from Finsbury Park to Hull. Approaching Helpston, near Peterborough, the fourth wagon was seen to be on fire. By the time the train was brought to a stand, the wagon was burning furiously. Fireman Elliott twice went between the wagons to uncouple the blazing vehicle despite considerable risk of the flames spreading to adjoining wagons.

XUM

Maximum Use of Passenger Accommodation

Seat reservation and regulation on British Railways. Possibilities of further development

(By a correspondent)

BRITISH Railways have over 40,000 passenger-carrying vehicles which contain almost 2,500,000 seats and 8,000 sleeping berths. One step towards improving the present financial position is the maximum utilisation of this accommodation.

It is not possible to deal with passenger travel either rail or road, as a whole, in a consideration of this nature. There are different types of travel with different standards of requirements. On short journeys passengers are usually prepared to travel in a lower degree of comfort than those whose journeys last longer, and accommodation can be used up to absolute maximum capacity. This is evident in peak travel periods on the urban, suburban, and short distance inter-urban services. The problem here normally is to provide enough accommodation.

Long-Distance Travel

On longer journeys passengers expect, and usually receive, greater comfort. This means using more space per passenger, so that the best possible use must be made of the space available. Passengers travelling by long-distance road coaches are allotted a specific seat when they book. Road transport operators find this easy to arrange because the size and layout of road vehicles are standardised and journeys are between a limited number of points. On railways, reservation of specific seats is more involved and expensive.

Specific seats are only reserved from the more important stations and on the more important trains. This applies to any railway which undertakes to reserve seats or berths. In the North Eastern Region of British Railways there are only 31 stations from which seats can be reserved, and reservations are usually only made at starting points.

It is logical to expect that there will be more trains on which reservations can be made as the proportion of local and branch trains decreases with the pruning of unremunerative services and British Railways concentrate on what is to them the more remunerative long distance traffic.

Present Procedure

The present procedure is for a chart to be prepared for each train each day at the station making reservations (Fig. 1). Reservations can be made at other stations if sufficient notice is given for the standard form (Fig. 2) to be sent and the reservation tickets returned. As the seat which has been reserved is marked off, a receipt is prepared (Fig. 3), and handed to the passenger and also serves as his authority when he claims his seat. Arrangements are made for reservation cards to be placed on the actual seats in the train and it is doubtful if the 2s. covers the cost of the work.

It is usual to leave a proportion of seats unreserved in all trains. Besides those who require reserved seats, many passengers wish to maintain the right to join trains without making any previous arrangements and to find seats available. To cater for the latter there must almost always be a surplus of accommodation.

Passenger transport as a commodity is extremely perishable. The procedure in other industries producing perishable commodities is to try and equate immediate demand and immediate supply, and to avoid wastage. To achieve this, management must have up-to-date information as to the level of demand. To any transport operator the reservation of seats is an invaluable guide.

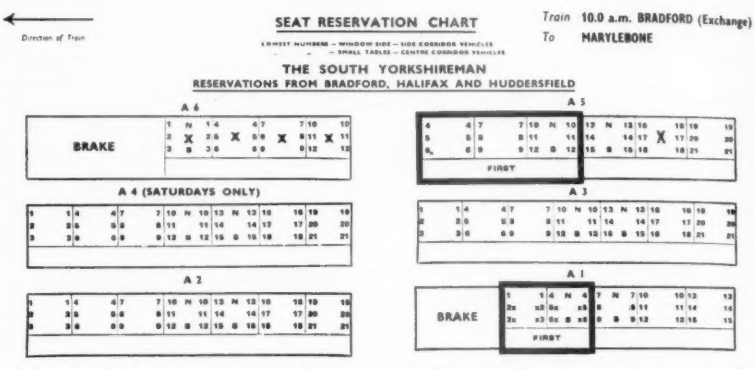


Fig. 1—Typical reservation chart prepared for each train each day at the station making reservations

Use has been made experimentally in the U.S.A. of electronic machines to register seat reservations and provide a co-ordinated picture of the day-to-day position at all stations on the line concerned. The system is operated with a telephone dial system and reservations at any station on the line transmitted to a central point from where any station can ascertain almost immediately what seats are available. The longer journeys in

B.R. 25414

BRITISH RAILWAYS.....**Region**.....**Station**.....**19**.....

Reference..... **To: THE RESERVATION OFFICE,**

.....**Region**

.....**Station**

Please reserve..... First / Second * **Class seat(s)** Facing / Back to * **Engine in a** Smoking / Non-Smoking * **compartment in the**..... a.m. / p.m. * **train to**.....

on..... .....**(day of week)**.....**(day) of**.....**19**.....

Are seats window or corridor preferred?.....

I enclose credit transfer voucher, value.....

Tickets to be sent to:—

† **Name**.....

Address.....

.....

Signed.....

* **Delete words not applicable.**
† **Indicate whether tickets to be sent direct to Applicant or to Requisitioning Station.**

FOR OFFICE USE

Received.....

Allocation.....

Serial No. of Tickets .....

Date Tickets despatched .....

Initials.....

Fig. 2—Form for request by other stations for seats to be reserved by station holding allotment

BR 3600/217

No. 89049

BRITISH TRANSPORT COMMISSION
BRITISH RAILWAYS N.E. REGION

RESERVED SEAT

Date 11th July

Train 9.43 a.m. ..... p.m.

From LEEDS CITY

To Faverton

Coach	Seat No.
A4	21

Class ~~FIRST~~ / SECOND

FACING / ~~BACK~~

To Engine

RESERVATION FEE 1/-

This ticket is not valid except on production of passenger ticket covering the journey and must be shown and given up when required.

BR 3600/217

No. 89048

BRITISH TRANSPORT COMMISSION
BRITISH RAILWAYS N.E. REGION

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~~FACING~~ / BACK

To Engine

RESERVATION FEE 1/-

This ticket is not valid except on production of passenger ticket covering the journey and must be shown and given up when required.

Fig. 3—Passenger's receipt. This was one of the series printed before the reservation fee was raised from 1s. to 2s.

that country justify more elaborate methods than those used in Britain.

Seat Regulation in L.M. Region

A system known as seat regulation was pioneered by the London Midland & Scottish Railway, the predecessor of British Railways, London Midland Region, for trains between Blackpool and certain areas in the industrial North of England during the summer holiday period and in connection with town holidays in the areas concerned.

There is no charge to passengers, nor are they guaranteed a specific seat, but the railway traffic staffs are afforded fairly accurate knowledge of what requirements are going to be.

Each train is given a regulation number. The seats in the train are allocated to the departure stations concerned. The intending passenger is directed to an available train if the one he wishes to use has been fully booked and the regulation number of the train to be used can be endorsed on the ticket, or the passenger may be given a supplementary regulation ticket. Each booking office keeps a record of the number of passengers it has regulated on each train (Fig. 4) and does not exceed its allocated number without the authority of the central office.

The central office for this particular scheme is at Manchester. From 10 days before each train is due to run, "allotment" stations render daily totals of passengers regulated on each train on Form "C" (Fig. 5). Each allotment station has a number of other stations zoned on it and these in turn have rendered returns to the allotment stations on Form "A" (Fig. 6). The central office increases or decreases allocations to each station as necessary or may arrange for the alteration in composition of a train if this seems advisable and is possible.

It is not possible to make provision for passengers who only book on the day the train runs, but they can be directed to a service for which the demand has not been so heavy.

An account is kept of collected tickets at the Blackpool stations, classified by originating areas, so that there is some guide to the numbers of passengers who will be travelling in the return directions (Fig. 7).

Regulation in Other Areas

Similar systems operate in other areas and supplementary regulation tickets are issued The most noteworthy example is Devon and Cornwall, where all long-distance trains are regulated on summer Saturdays. There are arrangements for obtaining regulation tickets at a station other than that from which the journey starts if application is made at least three weeks before the date of the journey. One incidental advantage is that passengers are able to compare the number on their regulation tickets with the number on the train as it enters the platform and so be sure of joining the right train.

As intermediate stations are closed seat regulation will be easier to operate. It lends itself to the use of simple electronic machines. It is particularly effective where all passengers either originate from or terminate at one particular point. With cross-country services it would be

BRITISH RAILWAYS B.R. 25028.

Station ..... Date .....

TIME	TIME	TIME	TIME
TO	TO	TO	TO
NO.	NO.	NO.	NO
ADVANCE BOOKING	ADVANCE BOOKING	ADVANCE BOOKING	ADVANCE BOOKING
DAY OF TRAVEL	DAY OF TRAVEL	DAY OF TRAVEL	DAY OF TRAVEL
0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9	0 1 2 3 4 5 6 7 8 9
10 1 2 3 4 5 6 7 8 9	10 1 2 3 4 5 6 7 8 9	10 1 2 3 4 5 6 7 8 9	10 1 2 3 4 5 6 7 8 9
20 1 2 3 4 5 6 7 8 9	20 1 2 3 4 5 6 7 8 9	20 1 2 3 4 5 6 7 8 9	20 1 2 3 4 5 6 7 8 9
30 1 2 3 4 5 6 7 8 9	30 1 2 3 4 5 6 7 8 9	30 1 2 3 4 5 6 7 8 9	30 1 2 3 4 5 6 7 8 9
40 1 2 3 4 5 6 7 8 9	40 1 2 3 4 5 6 7 8 9	40 1 2 3 4 5 6 7 8 9	40 1 2 3 4 5 6 7 8 9
[illegible]	50 1 2 3 4 5	50 1 2 3 4 5 6 7 8 9	50 1 2 3 4 5 6 7 8 9

Fig. 4—Form used in seat regulation by booking office. The numbers of passengers are marked off as they are assigned to the train against the quota

BRITISH RAILWAYS "Allotment" Station ..... Date .....

FORM C

Statement of Bookings to BLACKPOOL, SOUTHPORT, NORTH WALES, Etc., Districts

For ..... Day 19

★ NOTE—Each day's return must include the number of tickets issued (by each train) on the previous days; that forwarded on the day of travel to give ALL FINAL bookings

SCHEDULE NUMBERS ALLOTMENT & ZONE STN. ISSUES	★ BLACKPOOL	★ SOUTHPORT, NORTH WALES & LONG DISTANCE

Fig. 5—Form "C," returned daily by "allotment" station to central office and giving totals of passengers regulated on each train

necessary to break up the journey into sections and regulate for each section separately. If passengers could be induced to book in advance there would be mutual advantages to operator and transport user. Without advance bookings the system is of no use.

Other Methods

It does not follow that accommodation on any passenger train is provided haphazardly. Regular censuses are taken of passengers using the services. If special investigations are being made, a special census is taken. Unusual features, such as parties of which prior notice has been given, are provided for by reserving and increasing accommodation. Overcrowding which occurs regularly on a train is reported by local stationmasters and on the guard's journal, and action is taken accordingly.

Stationmasters concerned with special holiday trains are required to render reports to the district office of loadings and the suitability or otherwise of the arrangements made. Each year's workings are normally based on those of the previous year and the relevant comments made.

Considerations in Development

One vital difference between road and rail travel is that there is not the danger, physical or legal, of overloading a train as there is with a road motor coach. In a motor coach the number of passengers is limited to a definite figure, but the only real limit to the capacity of a train is the number of passengers who can gain access to it.

Supervision of seating in a motor coach is a relatively simple matter, but any reservations of individual seats in a train are more open to abuse by passengers who have not reserved.

No transport operator can afford either to provide surplus accommodation or not to have accommodation available for intending passengers. One uncomfortable journey will affect the future preference of a passenger for any particular form of transport.

Any attempt to co-ordinate these two requirements will result automatically in an improvement in net revenue. British Railways will be better able to evaluate this maximum use of assets when a much higher proportion of rolling stock than at present consists of standard vehicles, and after a slowing down of the present rapid process of reducing services. It is a field in which use of simple, multi-purpose electronic machines could be made in collation, analysis, and use of information.

BRITISH RAILWAYS BR. 30248
FORM "A"

FROM ..... TO .....

ZONE STATION. ALLOTMENT STATION.

Statement of Bookings to BLACKPOOL, SOUTHPORT, NORTH WALES, etc., for.....19

NOTE.—Each day's return must include the number of tickets (by all trains) issued on previous days. On the day of travel final bookings (by all trains) to be given.

Train Sch. No.	CUMULATIVE TOTAL No. OF TICKETS ISSUED			
	BLACKPOOL	SOUTHPORT	NORTH WALES	LONG DIST.

Fig. 6—Form "A," returned daily by "zone" station to "allotment" station

BRITISH RAILWAYS PARTICULARS OF COLLECTED TICKETS BR. 29721/2
FORM E.

Station ..... Date 19

Total No. of Tickets Collected. (Ordinary and Period)				No. of Tickets Collected. (All Descriptions)									
Code	O. & P.	Code	O. & P.	Time Due or Special Train No.	From	O. & P.		Excn.		H.C.'s		Free Tickets	Total
						C. Div.	W. Div.	C. Div.	W. Div.	C. Div.	W. Div.		
A		M											
AB		MA											
AC		MB											
AD		MC											
B		MD											
BA		ME											
BB		MF											
BC		MG											

Fig. 7—Summary of particulars of collected tickets classified by originating areas to afford indication of return traffic

Diesel Freight Haulage by the Canadian Pacific Railway

Grain train hauled by two 1,500-h.p. diesel "A" units leaving the Winnipeg terminal, Canadian Pacific Railway

RAILWAY NEWS SECTION

PERSONAL

Mr. H. K. L. Sethi, General Manager & Chief Engineer, Ganga Bridge Project, Indian Railways, has retired.

Mr. O. R. Smart, Principal Assistant to General Manager, Eastern Region, British Railways, who, as recorded in our August 21 issue, has been appointed Supplies & Contracts Manager, Eastern Region, King's Cross, joined the North Eastern Railway in 1920. He served at stations, district offices and headquarters until his appointment as a traffic apprentice in 1929. He subsequently held appointments in the District Goods Manager's Office, Newcastle; in the office of the Chief General Manager, L.N.E.R., King's Cross and at York, and as an Assistant Traffic Regulating Officer in the organisation set up specially to deal with wartime traffic. He was appointed Assistant District Goods Manager, Middlesbrough, in 1942, and Assistant Mineral Manager, Doncaster, in 1947. In 1949, Mr. Smart was appointed Assistant Commercial Superintendent (Passenger - General) Eastern Region. In 1953, he extended his activities to all commercial passenger matters in the region, on his appointment as Assistant Commercial Superintendent (Passenger). This position was later redesignated Assistant Commercial Manager (Passenger). He was appointed Principal Assistant to General Manager, Eastern Region, in April, 1956. His present position is newly created under the reorganisation of the Stores Departments of the Eastern and North Eastern Regions.

Mr. O. R. Smart
Appointed Supplies & Contracts Manager, Eastern Region

Mr. E. W. Gain, Principal New Works Assistant, London Transport Executive, has been appointed an Officer of the Executive with the title of Works & Building Engineer. Mr. F. S. P. Turner, Principal New Works Assistant, has also been appointed an Officer of the Executive. He assumes the title of Assistant New Works Engineer.

Mr. A. J. Boys, Branch Manager, Brighton Branch, Home Counties District, South Eastern Division, British Road Services, has been appointed District Manager, Home Counties District, South Eastern Division, on the retirement of Mr. M. F. Horner.

Mr. H. D. Boyd has resigned from the board of Edgar Allen & Co. Ltd.

We regret to record the death, at the age of 80, of Dr.-Ing. Alfred J. Büchi, the well-known inventor of gas-turbo pressure-charging.

Mr. C. M. Cock, General Manager, Traction Department, English Electric Co. Ltd., will retire at the end of the year. He will be succeeded as General Manager of Traction by Mr. H. J. H. Nethersole, Managng Director, English Electric Co. of South Africa (Pty.) Ltd. Mr. Nethersole will retain his seat on the board of the South African company, but will be succeeded by Mr. R. B. Price, a Director of that company and General Manager of Benoni Works. Mr. L. L. Brinkworth, Chief Engineer of the South African company will join the board as Technical Director on January 1, 1960.

Mr. C. P. Millard, Assistant Divisional Traffic Manager, Manchester, London Midland Region, British Railways, has been appointed District Goods Manager, Liverpool.

Mr. H. Bell, Principal Assistant to the General Manager, North Eastern Region, British Railways, who, as recorded in our August 21 issue, has been appointed Supplies & Contracts Manager, joined the London & North Eastern Railway, as a clerk at Fourstones, in 1924. After working at various stations and offices in the Newcastle and Leeds Districts, he was appointed a traffic apprentice in 1931. On completing his training, he became Staff Clerk in the District Superintendent's Office, Newcastle, in 1935. From 1937 he occupied various staff and trains positions in the Headquarters Offices at York over a period of nine years and, in 1946, became Head of Works Section, Divisional General Manager's Office, York. He was appointed Assistant to the General Manager (Works), North Eastern Region, in 1953, and Principal Assistant to the General Manager, North Eastern Region, in June, 1956. The position Mr. Bell now takes up, like that of Mr. Smart, is newly created under the reorganisation scheme of the Stores Departments of the Eastern and North Eastern Regions.

Mr. H. Bell
Appointed Supplies & Contract Manager, North Eastern Region

Mr. G. W. Miller, Assistant District Locomotive Superintendent, Bescot, London Midland Region, British Railways, has been appointed District Motive Power Superintendent, Derby.

Mr. R. H. C. Hackshaw, Rhodesia Railways' Agent at Lourenco Marques, has been redesignated Rhodesia Railways' Representative, and Mr. A. B. Widgery, Sub-Agent at Beira, is redesignated the Agent, Rhodesia Railways.

Mr. B. Arora, B.Sc., General Manager, Central Railway of India, who, as recorded in our August 28 issue, has retired, was born in 1904 and educated at Kanpur and Allahabad. He joined the Eastern Bengal Railway, in 1927, as an Assistant Traffic Superintendent. He became a District Traffic Superintendent in 1933 and, subsequently, Statistical Officer, Eastern Bengal Railway. In 1942 Mr. Arora was appointed Deputy Director, Statistics, Railway Board, New Delhi and, later, Officer on Special Duty (Post-War Reconstruction), with the rank of Joint Director. In 1946 he returned to the Bengal Assam Railway as Deputy Chief Commercial Manager, and was subsequently promoted to be Deputy General Manager (Personnel). On the eve of partition in July, 1947, Mr. Arora was appointed Transfer Officer (India) at Calcutta. In this capacity he was responsible for the absorption into the railways of Eastern Pakistan of about 22,000 India-opting employees. This work had to be completed in about six months and on its termination he was transferred to the Railway Board as Director of Traffic. In June, 1948, he was appointed Chief Administrative Officer, Assam Railway, and in April, 1952, Senior Deputy General Manager of the then newly-formed North Eastern Railway. Mr. Arora was appointed General Manager of that system in 1953, and General Manager, Central Railway, India, last year.

Mr. B. Arora
General Manager, Central Railway, India, 1958-59

Mr. R. B. Lal
Appointed General Manager, Central Railway, India

Mr. Maynard A. Metcalf, Vice-President of Traffic, Montreal, Canadian National Railways, will retire in January.

Mr. Robert Carlisle has been appointed Public Relations & Commercial Officer, Ulster Transport Authority.

Mr. G. C. Gold, Assistant Mechanical & Electrical Engineer, Doncaster, Eastern & North Eastern Regions, British Railways, has been appointed Mechanical & Electrical Engineer (Workshops), Chief Mechanical & Electrical Engineer's Department, Doncaster, Eastern Region.

Mr. W. R. G. A. Haynes, Freight Assistant to the Line Traffic Manager, Liverpool Street, Eastern Region, British Railways, has been appointed District Operating Superintendent, Euston, London Midland Region.

Mr. J. Adam, Technical Adviser, South African Airways, at Jan Smuts Airport, has been appointed Assistant Airways Manager. Mr. Adam is the South African Airways' representative in the Technical Committee of the International Air Transport Association (I.A.T.A.).

L.M.R. Appointments

London Midland Region, British Railways, announces the following appointments:

Mr. E. R. Brown as Works Manager, Crewe.

Mr. M. Harbottle as District Engineer, Derby (South).

Mr. J. O. Eaton as Staff & Organisation Assistant, Civil Engineering Department, Euston.

Mr. J. Carr as Assistant to Accountant (Audit), Watford

Mr. J. R. Cowper has been appointed to the Coastal Shipping Advisory Committee. He succeeds Mr. E. W. Burness.

Mr. C. S. Catlett, District Traffic Agent, Meridian, Illinois Central Railroad, has been appointed Industrial Development Representative, Chicago.

Mr. R. B. Lal, M.Sc., Chief Operating Superintendent, Central Railway, India, who, as recorded in our August 28 issue, has been appointed General Manager, was born in 1905 and educated at Allahabad University. Mr. Lal joined the Indian Government Railways, in 1929, as Assistant Transportation Superintendent, G.I.P. Railway. He occupied several positions in the Operating, Commercial and Personnel Branches on that system, and then moved to the Central Railway. He later served as Divisional Officer and as a Senior Operating Officer at headquarters. In 1944 he was promoted to the administrative rank. Until 1952 he worked as the Deputy Chief Operating Superintendent, except for a brief period when he worked as Divisional Superintendent, Jhansi, and as Deputy General Manager (Staff). Mr. Lal, for a while, was attached to the Southern Command, as Railway Liaison Officer. In 1952 he became Chief Operating Superintendent, Central Railway, and in 1955, he was made a member of a committee which examined the pattern and working of running sheds on Indian Railways. In December, 1957, Mr. Lal attended the Bangkok meeting of the Railway Sub-Committee of the United Nations Economic Commission for Asia and the Far East (E.C.A.F.E.). He later made a study tour of the railways in Malaya and Thailand.

Mr. W. B. S. Miller

Appointed Principal Assistant to the General Manager, N.E. Region

Mr. P. F. Shute

Appointed Divisional Signal Engineer, Manchester, L.M. Region

Mr. P. Gray

Appointed Works Manager, Stratford, Eastern Region

Mr. W. B. S. Miller, M.B.E., B.A.(Eng.) (Cantab.), A.M.I.C.E., Assistant Engineer, Special Duties, Chief Civil Engineer's Office, York, North Eastern Region, British Railways, who, as recorded in our September 18 issue, has been appointed Principal Assistant to the General Manager of that region, was educated at Haileybury and Emanuel College, Cambridge. Mr. Miller joined the London & North Eastern Railway, as an Engineering Graduate, in 1933, and was employed successively in the Area Engineer's Offices at York, Edinburgh and Kings Cross, and the District Engineer's Office at Stanningley. Mobilised, in 1939, with 150 Railway Construction Company, R. E., he served with this and other railway construction units throughout the war. He commanded No. 1212 Railway Construction & Maitenance Group in Italy, and later No. 3 Group in North-West Europe. He was awarded the M.B.E. in 1943 for services in Italy, and was demobilised, in 1945, with the rank of Lt.-Colonel, and joined the Maintenance Section, the Civil Engineer's Office, Kings Cross. After serving as Chief Assistant (Maintenance) and later Assistant District Engineer in the Boston and Doncaster Districts, Eastern Region, he was appointed District Engineer at Hull, in 1953. In 1958 Mr. Miller became Assistant Engineer (Special Duties) in the Chief Civil Engineer's Office, York, the position he vacated to take up his new appointment.

Mr. P. F. Shute, B.Sc.(Eng.), Deputy Assistant Signal Engineer (Modernisation), Euston, London Midland Region, British Railways, who, as recorded in our August 28 issue, has been appointed Divisional Signal Engineer, Manchester, was educated at the City of London Freemen's School and the City & Guilds College, London. Mr. Shute joined the Signal & Telegraph Department of the London Midland & Scottish Railway, in 1936, as a graduate apprentice. He became Technical Assistant in 1940, and in 1946 was appointed Assistant (New Works) at Euston, where he was responsible for the design of the Euston station power signalling scheme. He was promoted to be Assistant Divisional Signal Engineer, Crewe, in 1953; Indoor Assistant (Modernisation), Euston, in January, 1956; and Deputy Assistant Signal Engineer (Modernisation), Euston, in June, 1956. Mr. Shute is an Associate of the City & Guilds of London Institute and holds a diploma of the Imperial College of Science & Technology. In his new appointment, he will be responsible for the completion of the colour-light signalling installation between Manchester and Crewe.

Mr. P. Gray, A.M.I.C.E., Carriage & Wagon Works Manager, Stratford, Eastern Region British Railways, who, as recorded in our September 4 issue, has been appointed Works Manager, Stratford, was born in Glasgow, and was educated at Glasgow Technical College. Mr. Gray started his railway career, in 1931, as an Apprentice Engineer in the Cowlairs' Works, London &

Mr. A. L. Owen

Appointed New Works Officer, Manchester, L.M. Region

Mr. E. I. Boyd

Appointed District Traffic Superintendent, Barrow-in-Furness, L.M. Region

Mr. R. Bury

Appointed Dock Superintendent, Middlesbrough Dock, B.T.C.

North Eastern Railway, and was subsequently appointed Chief Carriage & Wagon Inspector at St. Margarets, Edinburgh. He then was made Acting Assistant to the Carriage & Wagon Works Manager, Cowlairs. In 1944, he was appointed Assistant to the Carriage & Wagon Works Manager, Gorton, and, in 1947, he became Locomotive Works Manager, Gorton. In January, 1951, Mr. Gray was appointed Carriage & Wagon Works Manager, Gorton. In September, 1956, he became Carriage & Works Manager at Stratford, the appointment he now relinquishes.

Mr. A. L. Owen, M.I.C.E., District Engineer, Manchester, London Midland Region, British Railways, who, as recorded in our August 28 issue, has been appointed New Works Officer, Manchester, entered the District Engineer's Office at Bangor, L.M.S.R., in 1929. Under that department was Resident Engineer on the Wirral electrification scheme (1937) and Resident Engineer at Manor Road Station and various works on the Wirral and at Birkenhead (1939). Mr. Owen was made Engineering Assistant to the District Engineer, Liverpool, in 1943; Acting Assistant to the District Engineer, Crewe, in January, 1946; and nine months later was attached to the staff of the Chief Civil Engineer, Watford, for supervision of oil-fuel depots. In 1947, he was appointed Assistant to the District Engineer, Bradford, and early in 1950 became District Engineer, Bradford; later that year the Bradford District was transferred to the North Eastern Region. In 1951 he returned to the London Midland Region, as District Engineer, Manchester. He was a member of the L.M.S.R. (and later, London Midland Region) Permanent Way Educational Panel, 1946, and lecturer at the supervisors' course at Derby School of Transport until the dissolution of the panel in 1949.

Mr. E. I. Boyd, Assistant District Traffic Superintendent (Commercial), Chester, London Midland Region, British Railways, who, as recorded in our August 28 issue, has been appointed District Traffic Superintendent, Barrow-in-Furness, began his railway career with the former London & North Eastern Railway, at Seaton Carew, in 1923. After working at Hartlepool and York he was selected as a traffic apprentice in 1929. On completion of his training, Mr. Boyd was appointed Passenger Agent to the District Manager, Nottingham, and in 1937 moved to Peterborough, as Assistant to the District Goods & Passenger Manager. He subsequently served as Goods Agent at Peterborough and at Boston. In September, 1949, he became Assistant District Goods & Passenger Manager, Peterborough. He was re-designated Assistant District Commercial Superintendent in the following year, and moved to Chester in the same capacity, in 1953.

Mr. R. Bury, Assistant to Docks Manager, Middlesbrough & Hartlepools Docks, British Transport Docks, who, as recorded in our September 4 issue, has been made Dock Superintendent, Middlesbrough Dock, was educated at Barry Grammar School and joined the Great Western Railway, as a clerk at Barry Docks, in 1940. After service in various clerical positions in the Dock Manager's Office, he was transferred, in 1948, to the Chief Docks Manager's Office, Cardiff, and in 1952 was selected for special training at the South Wales Docks. In 1955 Mr. Bury transferred to the staff of the General Manager, British Transport Docks, London, and was subsequently appointed Assistant to the Docks Manager, Middlesbrough & Hartlepools Docks in 1957. Mr. Bury was a pilot in the Royal Air Force from 1943 until his release in 1947.

We regret to record the death on October 28, at the age of 56, of Mr. Lionel Smith, Commercial Director of Benjamin Electric Limited.

Mr. A. Kirkham has resigned from the board of Sir W. H. Bailey & Co. Ltd., and joined the Foundries Division of David Brown (Industries) Limited.

Mr. R. E. H. Braithwaite, Assistant Engineer, East Kent Road Car Co. Ltd., has been appointed Chief Engineer of the Yorkshire Traction Co. Ltd., in the place of Mr. J. N. Barry, who will retire shortly. Mr. Braithwaite will take up his new appointment from a date to be agreed.

Under the reorganisation of the General Manager's Department, Eastern Region, British Railways, the appointments of Principal Assistant to General Manager and General Assistant to General Manager have been abolished. Mr. C. E. Whitworth, formerly General Assistant to General Manager, has been promoted to the new position of Assistant to General Manager.

Mr. W. A. Galbraith has been appointed General Sales Manager, British Materials Handling Division, Yale & Towne Manufacturing Company. Mr. H. Davis, Assistant Sales Manager (United Kingdom), has been appointed Sales Manager (United Kingdom), and Mr. M. J. Stuart, Assistant Sales Manager (Export), becomes Sales Manager (Export). Mr. Galbraith was formerly Chief Sales Engineer, Materials Handling Division, Babcock & Wilcox Limited.

Mr. Michael C. Potts and Mr. Peter Sharp have been appointed Directors of Dowty Mining (Canada) Limited. Mr. Sharp has also been appointed General Manager. Colonel C. W. King has resigned as Works Director of Rotol Limited and of British Messier Limited. Mr. A. E. Atkins, Production Controller of Dowty Equipment Limited, has been appointed General Works Manager of Rotol Limited and of British Messier Limited. The companies are all members of the Dowty Group.

Mr. T. G. Hughes, Chief Assistant to the European Traffic Manager, Canadian Pacific Railways, has been appointed European Traffic Manager. This is a newly-created appointment intended to achieve closer integration of the company's railway, airlines and steamship services. Mr. Hughes will be responsible for all passenger traffic matters in Europe. Mr. R. J. Harden, General Passenger Agent, becomes Assistant European Passenger Manager. Other appointments are: Mr. R. H. Hobern, Assistant General Passenger Agent, London, is appointed Regional Sales Manager (Rail & Ocean); Mr. J. F. G. Swan, Traffic Supervisor, Canadian Pacific Airlines, becomes Regional Traffic Manager (Air), and Mr. J. A. M. Watson, Industrial Agent, Canadian Pacific Airlines, becomes Regional Sales Manager (Air).

C.N.R. Redesignations

The Canadian National Railways has announced the following changes in titles:

Mr. J. Matthews, General Freight Agent, becomes European Freight Manager.

Mr. C. G. Thearle, General Passenger Agent, becomes European Passenger Manager.

Mr. A. J. Sweetman, General Express Agent, becomes European Express Manager.

Mr. T. A. Hooker, Development & Research Officer, becomes Development & Research Commissioner.

Mr. E. F. Humphries, Public Relations Representative, has been redesignated Public Relations Officer.

Mr. Kenneth Runnicles, Commercial Account Representative of El Al Israel Airlines, has been appointed Travel Manager of the Dunlop Rubber Co. Ltd.

Mr. B. Williams has been appointed Resident Technical Sales Representative, Bristol Office, Crofts, Power Transmission Engineers. He succeeds Mr. Dawson, who has retired.

Mr. C. E. B. Barker has been appointed Manager, Plymouth Branch, British Insulated Callender's Cables Limited. The independent branch at Plymouth was formed recently from the depot there.

Mr. T. B. O. Kerr has been appointed Director for Finance & Administration, General Electric Co. Ltd. He was previously a Director & Secretary of the company. Mr. O. W. Humphreys, Research Director, has been appointed Director for Research & Technical Development. Mr. W. J. Bird, Home Sales Director, becomes Director for Sales & Marketing Development.

Mr. F. H. Beasant has returned to England from Australia to become Deputy Manager, Traction Division, Brush Electrical Engineering Co. Ltd., a member of the Hawker Siddeley Group. Mr. Beasant has had long experience in the traction field and has held positions both in the operating and manufacturing side of the industry. He will be based at Headquarters Office 32, Duke Street, St. James's, London.

Institution of Railway Signal Engineers

The following names have been entered on or transferred in the register of members of the Institution of Railway Signal Engineers:—

Members

Mr. D. J. Both, Engineer (Signalling), Adelaide, South Australian Railways.

Mr. E. P. Cook, Communications & Power Engineer, Adelaide, South Australian Railways.

Mr. P. F. Shute, Divisional Signal Engineer, Manchester, London Midland Region, British Railways.

Transfer Graduate to Member

Mr. M. E. Leach, Assistant to Signal Engineer (Modernisation of Equipment), Reading, Western Region, British Railways.

Associate Members

Mr. A. S. Caldwell, Signalling & Level Crossing Engineer, Adelaide, South Australian Railways.

Mr. W. Daniels, Signal Maintenance & Crossing Protection Engineer, Adelaide, South Australian Railways.

Mr. B. C. Di Marco, Resident Engineer, Westinghouse Brake & Signal Co. Ltd.

Mr. W. C. H. Hately, Assistant Engineer, Adelaide, South Australian Railways.

Mr. B. G. P. Palin, Signal Inspector, Miles Platting, London Midland Region, British Railways.

Associates

Mr. W. S. Adams, Sales Executive, Le Carbone (Great Britain) Limited.

Mr. C. D. Aspinall, Assistant to Telecommunications Engineer, Nairobi, East African Railways & Harbours.

Mr. F. A. Barnes, Managing Director, Lamp Manufacturing & Railway Supplies Limited.

Mr. R. Capper, Assistant to Stores Superintendent, York, North Eastern Region, British Railways.

Mr. G. F. Wix, Sales Director, Bernard Collins Limited.

Transfer from Student to Graduate

Mr. V. Brown, Draughtsman, Divisional Signal Engineer's Office, Manchester, London Midland Region, British Railways.

NEW EQUIPMENT AND PROCESSES

Sliding Wagon Roof

THE MacGregor-Comarain sliding wagon roof, sole manufacturing and exploitation rights within the United Kingdom of which were acquired last year by Rubery, Owen & Co. Ltd., is in extensive use on the French Railways. In this country, a specially designed version for English wagons has been fitted to various wagons on a prototype basis.

The roof forms an integral part of the wagon. When open, it is housed very neatly at one end and offers no hindrance to any conventional method of loading, whether manual or by overhead crane. When closed, the wagon is completely snowproof, waterproof, and pilferproof. Elaborate precautions and, in the case of many commodities, extra packaging, are unnecessary. For the movement of steel traffic, the roof has been fitted to 13-ton shock-absorbing wagons. One of these, fitted with glass-fibre roof panels, is in service on the Western Region of British Railways. A similar wagon with steel panels was shown at the Freight Transport Exhibition of the Western Region which was held at Plymouth on Monday and Tuesday this week.

Statistics can be offered to show savings in time and money through use of this sliding roof—a saving of 4 hr. per turn-round of 13 wagons is claimed. To open or close the roof takes one man about 30 sec., a considerable saving in time against the 20 min. normally required by two men for sheeting, plus inspection time on the tarpaulins.

Further details can be obtained from Rubery Owen & Co. Ltd., Contracts Division, P.O. Box 10, Darlaston, Wednesbury, Staffs.

Computer Aid in Design

DEMONSTRATIONS were recently staged in London to illustrate how analogue computers can help to solve fundamental problems of vehicle design.

Analogue computer studies have been used in the United States for a number of years as an aid to producing improved suspension systems to suit widely differing conditions. Experience has shown that, by combining computer analytic studies with experimental work, rapid advances in development can be achieved.

A versatile analogue computer has been developed to deal with such problems. Known as the EMIAC II, it is already widely used in aircraft, nuclear and commercial fields. It incorporates the latest modular construction, which enables it to be extended.

Basically, an analogue computer facilitates the manufacture of electrical models of machines or processes, which can then be operated like the real thing. They enable the operator to take liberties with time, speeding it up, or slowing it down at will. By stating the problems in terms of an equation based on the facts as far as they are known, it is possible to explore unknowns and add greatly to basic knowledge.

In addition to providing analogue computers, the manufacturer operates a study service in the company's own computer hall at Hayes where problems can be solved and expert advice given.

Further details can be had from E.M.I. Electronics Limited, Hayes, Middlesex.

Tuition in Electronics

A NEW series of filmstrips have been designed to assist the teaching of electronic engineering. The first of the series —"Thermionic Oscillators"—is available now at £1 5s. a copy, including teaching notes. The second, which deals with non-sinusoidal oscillators, is in preparation, and will be followed by others covering the subjects of modulation and transmission.

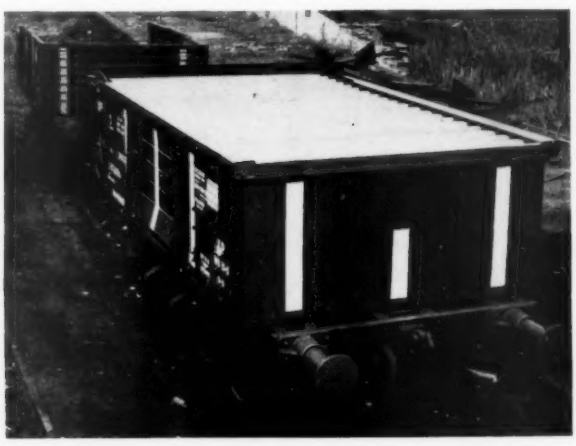
"Thermionic Oscillators" comprises 27 colour frames, arranged in two parts. The first begins with an explanation of the basic principles of electronic oscillation, using the mechanical analogy of the loaded spring. Some revision of a.c. theory and resonance is then given, and finally the operation of various forms of simple electronic oscillators is examined in detail.

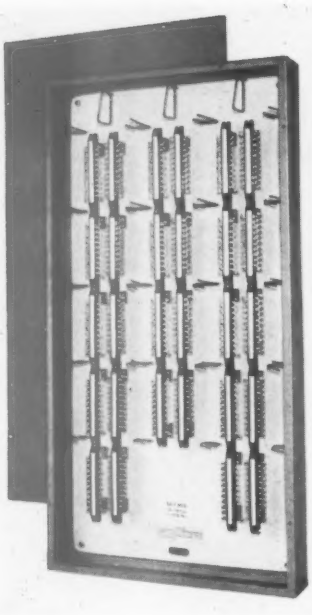
In part two, explanations are given of Miller-effect and electron-coupled and crystal-controlled oscillators. The strip concludes with an examination of a typical practical circuit comprising oscillator, buffer amplifier, and output amplifier.

Further details can be obtained from the distributors, Unicorn Head Visual Aids Limited, 42, Westminster Palace Gardens, London, S.W.1, or from the Mullard Educational Service, Mullard House, Torrington Place, London, W.C.1.

Junction-Distribution Boxes

A RANGE of junction-distribution boxes including boxes for signal, fire/burglar alarm, and dictating/recording equipment





now contains an improved type of steel-cased, damp-proof telephone junction-distribution box.

Capacities are from 10 pairs (20 ways) up to 200 x 200 pairs (400 pairs/800 ways) complete with full "jumpering" facilities. Terminal blocks are of a new and robust type of 10 pairs (20-way) capacity, complete with full-size wide-headed terminals and soldering tags to take up to 0·036 conductors. The blocks incorporate a new and easily removable self-contained designation strip together with a protective plastic cover in a nickel-plated holder mounted on the block which permits, without removal, soldering of conductors to terminal tags.

These boxes are very robustly constructed with welded corners and stove-enamel finish. Covers, both hinged and "drop-on" types, are fitted with a resilient plastic gasket to seal against damp, dust, and other foreign matter. They are sealed to the box by broad-headed, cadmium-plated "captive" bolts.

Further details can be obtained from the manufacturer, G. C. Rodwell Limited, 232, Lavender Hill, Enfield, Middlesex.

Rubber Railway Crossings

A rubber railway crossing has been installed over a double set of curved tracks at Wooster, Ohio, U.S.A. Although these crossings are in use at a number of places in the U.S.A., this is the first time rubber pads have been tried on a curve.

Further details can be obtained from the Goodyear Tire & Rubber Company, Akron, Ohio.

Heavy-Duty Tyre

THE Powergrip Major, a new tyre for heavy-duty use, will be shown for the first time at the Scottish Motor Exhibition at Kelvin Hall, Glasgow, from November 13 to 21 this year. It has been developed for conditions where improved wear and increased resistance to cutting are needed.

Further details can be obtained from the Dunlop Rubber Co. Ltd., 10-12, King Street, St. James's, London, S.W.1.

Mechanised Handling of Parcels Traffic at Bradford

Introduction of fork-lift trucks and box-type "live" stillages

Removing a loaded stillage from a collection vehicle by a Lancing Bagnall pedestrian-controlled fork-lift truck

The possibilities in mechanised handling of general parcels traffic, are being demonstrated by the North Eastern Region of British Railways at Bradford where two fork-lift trucks with 64 "live" stillages of the box type have been brought into use. Passenger train parcels traffic has always been heavy at Bradford, but, in recent years, it has assumed bumper proportions largely through developments at Grattans Warehouses Limited, one of the principal mail-order houses in the country.

This year, to date, the firm has despatched an average of over 7,000 packages a day, 41 per cent more than in the same period in 1956. Altogether, the number of parcels forwarded this year by passenger rail service from Bradford has averaged 10,000 a day. With the busiest season still to come, some increase in man and vehicle power would have been inevitable but for the introduction of mechanical handling arrangements.

Grattans Limited has two main despatch points, one at its Ingleby Road Warehouse and the other at its Wibsey Warehouse. At Wibsey, hand loading of parcels into the collection vehicles involved a carry of approximately 50 ft. Now, by mechanical handling, the parcels flow directly from the despatch benches into the stillages which are then wheeled by hand into the vans. Loading time has been cut by half an hour.

Increased Journey Capacity

The time saved in loading and unloading has increased the journey capacity of the existing collection fleet by 50 per cent. A system of primary sorting has been introduced and is operated by the railway personnel employed in the firm's warehouse. At both the Forster Square and Exchange Stations, fork lift trucks have been provided for transferring the loaded stillages to the platforms and returning empty stillages to the vehicles. At Exchange Station the truck is a pedestrian controlled Lancing Bagnall, but at Forster Square, which is the main rail despatching point, a Scott electric "rider" truck has been provided for quicker movement among the sorting barrows. The stillages are 4 ft. 6 in. long by 3 ft. 6 in. wide by 5 ft. high and, being fully "live," can be easily manoeuvred by hand both in the station premises and in the firm's warehouse.

The packages despatched by the firm vary greatly in shape and size, but the stillages load an average of 35, and four stillages are accommodated on one ordinary parcels collection van. They can be linked together and moved about in trains.

Cross-Town Cartage

A feature of the parcels working in Bradford is the heavy cross-town cartage between Exchange and Forster Square Stations. An average of 3,000 parcels a day have to be transferred and in this also the use of mechanical handling appliances has achieved a much quicker turn round of vehicles. Later, secondary sorting at the despatch warehouse is to be introduced to reduce still further the handling at the stations.

Accountancy arrangements are streamlined by an agreed flat rate arrangement under which the fixing of normal ledger labels has become unnecessary. Each package as it leaves the firm's despatch bench, and before being loaded into its appropriate stillage, is checked against its consignment note entry. The only franking necessary is by hand operated rubber stamps.

ENGINEERS' GUILD LIMITED CHANGE OF ADDRESS.—The Engineers' Guild Limited, including the appointments division, has moved to 201, High Holborn, London, W.C.1. Telephone : HOL. 1057.

A.E.I. LIMITED AND ALCO AGREEMENT ON DIESEL-ELECTRIC LOCOMOTIVE PRODUCTION.—Associated Electrical Industries Limited, and Alco Products Incorporated, of New York, announce that an arrangement has been made for collaboration in design, manufacture and sale of diesel-electric locomotives for world markets.

Leeds-Liverpool Diesel Service

An hourly interval service of diesel trains between Leeds and Liverpool, with certain of the trains running through to Hull, is planned by British Railways, North Eastern Region.

Scheduled to come into operation before the end of next year, the service will be provided by self-contained six-car diesel multiple unit trains providing 60 first class and 232 second class seats as well as a buffet car.

Layout of Trains

The new trains which are now being built at Swindon Workshops, British Railways, Western Region, will comprise three types of coach. The first and last coach in the trains each contain a driving compartment as well as first and second class seats facing the driver. A separate first class non-smoking section will be partitioned. The second and fifth coaches will each have six second class compartments with four-a-side seating and two of the compartments will be non-smokers. One of the two centre coaches will have 64 second class seats, 32 in each of two sections, one section for smokers and the other for non-smokers. The other coach will be a buffet car comprising a small kitchen and serving bar, tables for meal service and room for standing passengers taking light refreshments at the bar. It will also contain three first class compartments into which meals can be served if required. One of these compartments will be for non-smokers.

Delivery of the new vehicles is expected towards the middle of next year, and it is possible that some new trains will take over from some of the existing steam services before the full diesel service can be put into operation.

Electronic Recorders for Electrification Projects

A new electronic recording device is to be used by British Railways electrical and signal engineers to help in checking the performance and efficiency of new, high-voltage a.c. electrification schemes and equipment, and associated signalling installations.

The device, known as an electronic analysing recorder, will provide information about an electrified system on a scale that could not be otherwise achieved and has never been possible before. This information will help engineers to improve the design of equipment for future electrification schemes and to predict requirements for lines to be converted from steam or diesel to electric traction.

Installation in Trains

Recorders will be installed in electric trains and locomotives and at points along test sections of electrified line to record such data as the speed and position of trains relative to variations in electrical voltages and current consumption under varying load conditions, and the general effect throughout the power supply and in other related services.

Twenty-seven recorders have been ordered and all should be available by next spring. They will be used to provide information about two recently completed pilot electrification schemes, one between Slades Lane Junction and Wilmslow, on the Crewe-Manchester main line, London Midland Region, and the other between Colchester and Clacton, Eastern Region.

In a large-scale recording operation British Railways expects to use up to 24 recorders to take readings covering a variety of equipment over a wide area, but more recorders could be used if required. The recorders can be synchronised and operated remotely through a specially adapted "master" recorder, and coded time signals, issued by an electrical synchronous clock fitted to each recorder, will ensure that groups of readings can be accurately compared. Based on the computer principle, the recorders will code and store information on punched tape which will be processed later by standard computers. The computers will automatically print characteristic features in a tabulated form.

The contract for the 27 recorders has been awarded to the Microcell Group following successful development work carried out by its Computer Division to the requirements of Mr. S. B. Warder, Chief Electrical Engineer of British Railways Central Staff.

Institution of Railway Signal Engineers

A meeting of the Institution of Railway Signal Engineers was held on October 14, at the Federation of British Industries, London. Mr. D. G. Shipp, President, was in the chair. A precis on a paper "Signalling Equipment on 50c/s Electrified Lines"—illustrated with lantern slides, was delivered by Mr. W. M. Sweetenham. The paper was the subject of an editorial article in our October 16 issue.

The author dealt with the various problems now facing the signal engineer consequent on the British Transport Commission decision to electrify lines north of the Thames at 25kV., a.c. He explained the various effects of 50-cycle voltages on the operation of track circuits, and described some of the alterations necessary in the design of signal apparatus to make it immune from the effects of traction currents. These alterations covered the immunisation of d.c. track relays and the provision of protective apparatus in d.c. and a.c. track circuits. Mr. Sweetenham also gave demonstrations on various types of equipment and instruments displayed for members' inspection.

Messrs. R. A. Green, E. A. Rogers, H. J. Riddle, J. C. Kubale and J. F. H. Tyler, and Dr. A. Rosen, contributed to the discussion.

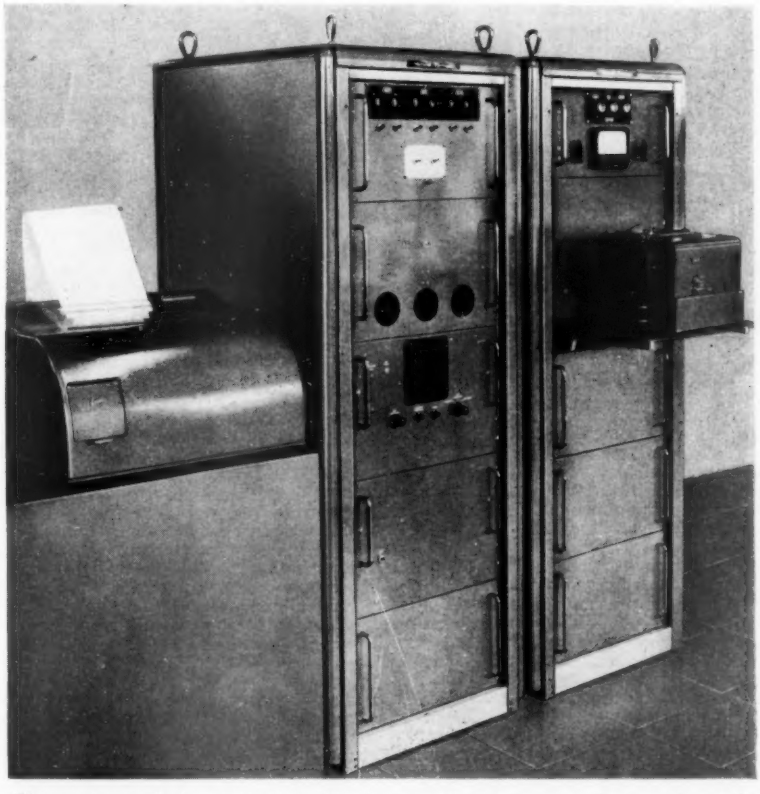
Mr. Green recalled that British Railways, Eastern Region, had carried out tests between Fenchurch Street and Bow Junction four years ago, on the effects of a.c. leakage currents on signalling equipment. The signalling manufacturers had been invited to co-operate with the railway engineers in the subsequent research work. He also made observations on the type of equipment described, and explained the difficulty of the Eastern Region in conversion work on the Liverpool Street to Southend line. Since 1949, he pointed out, this section had been operating on 1,500 V d.c. and was now to be converted to a.c. The paper and demonstrations, which made the problem look simple, gave no hint of the concentrated effort with which results had been achieved.

B.T.C. Decision on A.C. Electrification

Mr. Tyler remarked that it was unfortunate that the information contained in the paper had not been available before the decision to adopt a.c. electrification. The additional amount of signalling apparatus now necessary seemed to outweigh the advantages claimed for a.c. electrification. Mr. Tyler compared the French and British methods of overcoming the problems.

Mr. Rogers commented on various component parts used in the new track circuits.

Mr. Kubale asked whether the introduction



Electronic analysing recorder, showing punched-tape recorder on the right

of the various protective devices in the track circuits affected the value of the train shunt. He observed that at present the small amount of a.c. electrification in Britain afforded meagre experience. After further conversion, the present problems would prove less difficult.

Dr. Rosen made some observations on the reliability of series devices in the various circuits.

Mr. Sweetenham dealt with the various points raised by the speakers. He received a hearty vote of thanks from the meeting.

New Signalling at Chalfont & Latimer Station, L.T.E.

In preparation for the projection of London Transport Metropolitan Line electric trains to Amersham and Chesham in 1960, the signalling at Chalfont & Latimer Station, the junction between the main line and the single-line Chesham branch, has been completely modernised. The changeover to the new standards took place on the night of October 24-25.

Remote Control

For the present, the new signalling will be operated from the existing signalbox at Chalfont & Latimer, but eventually it will be remotely controlled from the new cabin now being equipped at Amersham. The mechanical level frame at Chalfont & Latimer has been taken out of commission ; most of the signals have been replaced by modern two-, three- or four-aspect colour-light signals, two fitted with junction indicators; and the mechanical disc shunt signals have been replaced by externally illuminated electro-pneumatically operated automatic disc signals.

Fog Signals

Seven two-aspect fog repeating signals have also been installed, each 400 ft. from the main signal which it repeats. Platform repeating signals showing " On " or " Off " have been provided on both northbound and southbound platforms at Chalfont & Latimer Station, that on the northbound platform displaying an illuminated white bar, as well as the legend " Off," when the train concerned is for the Chesham branch.

Alterations to Track Layout

Among alterations to the track layout is the provision of a new facing connection from the northbound main line to the Chesham branch. The slip connection provided formerly has been retained, but in future will be used only by trains moving into the goods yard. All points operated from the signal cabin are now electro-pneumatically worked.

The control panel in the Chalfont & Latimer signalbox is provided with switches of the route-setting type. The operation of the switch sets up the points and signals for a complete route through the area. There is a special switch for goods yard working, enabling certain points to be controlled by either the signalman or the yard shunter as required. All running lines in the area, with the road used for running locomotives round trains and the area of the goods yard connections, have track circuits and the state of all track-circuited lines is shown on an illuminated diagram in the signalbox.

The new signalling at Chalfont & Latimer was designed and installed under the supervision of Mr. R. Dell, Signal Engineer, to the requirements of Mr. C. E. Dunton, Chief Civil Engineer, of the London Transport Executive.

Parliamentary Notes

Improvement in the Railways

The words in the Queen's Speech at the opening of Parliament on October 27, that the Government " will encourage further modernisation of the railways," were discussed in the debate on the Address in the House of Commons.

The Prime Minister, Mr. Harold Macmillan, pointed out that the Ministry of Transport, being no longer associated with aviation, could concentrate in its efforts on all forms of surface transport.

Sir Thomas Moore (Ayr—C.) said that despite the amount of over £500 million which was being spent to modernise the railway system, there did not seem to be any improvement. There was no improvement in the train times and the employees were not more content. Passenger coaches were no cleaner.

Mr. E. L. Mallalieu (Brigg—Lab.) said that nationalisation had been singularly successful wherever it had been tried in Britain. When they considered the French National Railways, which were not privately owned, but are nationally controlled and probably the best in the world, it could not be argued that nationalisation or national control must necessarily be wrong, ineffective or inefficient.

Mr. Geoffrey Wilson (Truro—C.) said that although the French railways had considerably improved, they had been improved largely through the aid received from U.S.A. Today they were not paying. They were making extremely heavy losses, about which the French themselves were worried. The Dutch had rehabilitated their railways. The Netherlands Railways were the only railways in Europe which were paying at the moment. They could hardly be said to be nationalised. It was merely a case of the Government owning all the shares of a private company. There was no Parliamentary control.

Recalling that he was once in the railway service himself, Mr. Wilson added that he had many friends still in it, and many also in the road haulage industry. They took rather contrary views. Some railwaymen were inclined to say that the Government was doing too much to encourage wasteful competition on the roads, and some road hauliers stated that the Government was subsidising the railways.

" I think that both criticisms are wrong," commented Mr. Wilson. " In an expanding economy there is room for both road and rail transport, and it is a good thing that the customer should have a choice between the two. Both railwaymen and road hauliers are wrong in assuming that each is the other's chief competitor. Both suffer severe competition from ' C '-licence vehicles."

The recent survey of " C "-licence vehicles, published by the Traders' Road Transport Association, showed that manufacturers and traders did not spend their capital on such an ancillary service merely out of pique, but because they could provide themselves with a better service than they could at present get from public transport, road or rail, with regard particularly to delivery and the avoidance of breakage and pilferage.

Any improvement of the railway service in that respect would discourage manufacturers from providing their own vehicles and would encourage their return to rail transport. He had known of cases where former " C "-licence holders had returned to rail transport when the service improved.

Far from being annoyed that the Government should be making efforts to improve the railways, the road hauliers should be rather pleased about it, because to the extent that the " C "-licence user was encouraged to go back to the railways, he was leaving more room on the existing highways. That relieved congestion. Nor was such a partial return to rail transport really to the detriment of the road haulier, because he had still plenty of other opportunities to provide services that the railways could not provide. If the freight had to be delivered without handling, the railways found door-to-door deliveries impossible except by means of containers, but the road haulier had no such difficulty. Improvements in both road and rail transport were very vital in his constituency in connection with the encouragement of the diversification of industry in Cornwall, and for that and other reasons he welcomed the Queen's Speech.

Pullman Services

Sir Otho Prior-Palmer (Worthing—C.) said that the suggested increase in Pullman car services was incomprehensible. The Labour Party should have abolished them when it had the chance. The Pullman supplementary charges were heavy and Pullman accommodation no more comfortable than an ordinary compartment. On top of that, one paid an exorbitant price for refreshments. He could not see why in Britain, as on the Continent, they should not have excellent restaurant services without having Pullman cars and Pullman trains for use of which one was forced to pay an excessive supplement.

Electrification

Mr. John Harvey (Walthamstow E.—C.) wondered if the Government had really considered carefully the wisdom of electrifying so much of the railways and adopting diesel traction on the rest. It would be wiser in the long-term interests of the national economy to electrify as the main answer to the railway problem. That would simplify the fuel problem. A train which left London on electricity generated from oil could pass through the Midlands on electricity generated from coal and through the North on electricity generated atomically at Calder Hall.

Freight Charges

Mr. Julian Ridsdale (Harwich—N.L.C.) said it was because of the " strait-jacket "—the necessity to make the accounts balance one year with another—that the railways had not been able to go after business as they should, especially with the goods side. Consequently, instead of reducing prices to encourage greater use of the railways for merchandise and freights, they had been forced to increase prices and, as a consequence, to lose trade and revenue. He wished for a pricing policy which would enable the railways to be used at maximum capacity and not the near minimum at which they were operating at the moment. When that had been done, and some of the traffic at present moved on the roads had gone back to the railways, it would be easier to appreciate the serious problem which faced them on the roads, and the real economic problem which faced them on the railways.

Sir Leslie Plummer (Deptford—Lab.) agreed that inhibitions placed upon the nationalised industries by the Treasury clause relating to the making of a profit, one year with another, were frustrating. He hoped to live to see the day, not far off, when nationalised industries would be valued not by the profits they made, but by what services they provided. One of the mistakes the Labour Party made in its introduction of nationalisation was to consider the success of nationalisation in capitalist terms. Did it make money or not ? He did not believe British Railways in their present state would ever make money. His judgment of the success of the railways was whether they were being properly managed, properly run and properly organised to meet the needs of the public.

Earl Jellicoe, in the debate on the Address in the House of Lords on October 29, said how glad he was that the Government was determined to press ahead with the railway modernisation programme. He hoped that the new Minister of Transport, Mr. Ernest Marples, would prod the B.T.C. into paying more attention to amenities and service. With the coming of electrification he felt that something must be done to give a real face-lift to at least some major stations.

Questions in Parliament

M.P.'s Questions on Railways

Mr. Robert Mellish (Bermondsey—Lab.), asked Mr. R. A. Butler, the Home Secretary, as Leader of the House of Commons, on October 29, if he was aware that " some of us " are very dissatisfied that they still had a system by which they were not able to ask the Minister of Transport more detailed questions, relating particularly to British Railways? There was a very strong feeling that the time had now come when Members should have the right to ask the sort of question they wanted to ask.

Mr. Butler: I will pay attention to this point, subject, of course, to the general reservation about interference in the day-to-day activities of the nationalised industries.

Mr. Mellish: We can ask questions about the day-to-day administration of the Post Office, so why can we not ask similar questions on anything we like?

Mr. Butler: It is accepted, and has been accepted from the other side of the House, that to answer a question why the 8.53 train from one place to another was late is rather awkward on the floor of the House. The relationship of the nationalised industries to Parliament is a large matter. Within reason I think we would wish all questions to be possible.

Lt.-Colonel Bromley-Davenport (Knutsford—C.): It is not a question of the 8.53 train being late or early, but rather that a whole lot of these beastly trains are dirty, late, and very often dangerous.

Mr. Butler: That question raises wider issues.

Mr. T. Driberg (Barking—Lab.): During the war, when there was a Ministry of War Transport, it was possible to put down questions about the 8.53 train, and the Order Paper did not get unduly overloaded.

Mr. Butler: I am very much interested that at the opening of the new Parliament this issue should have been raised. I think that it should now be properly considered, not merely discussed, across the floor of the House. I certainly undertake that it will be considered.

Mr. E. Shinwell (Easington—Lab.): This is a matter of very great importance. The time at which a train arrives is not the issue. We demand the right to ask questions. At present, when these questions are put to a Minister we are referred to the Coal Board or to the B.T.C. The Minister should consult my friends on the Front Bench—and perhaps some other Members—on the best means of dealing with this very difficult and complex matter.

Mr. Butler: It would be necessary to have proper consultations. Subject to that, we may well leave the matter there.

Mr. P. Noel-Baker (South Derby—Lab.): As one who had to answer questions about transport during the war, it was my experience that Parliamentary questions always helped to promote efficiency in industries under public control and debates were very powerful factors in improving the efficiency of public industries.

Contracts and Tenders

Electronic analysing recorders for British Railways electrification projects

The British Transport Commission has placed an order with the Microcell Group for 27 electronic analysing recorders. These have been developed to the requirements of Mr. S. B. Warder, Chief Electrical Engineer, British Railways, Central Staff, to feed British Railways with information to assist its electrification. A brief description of the recorder appears on page 407.

Tangyes Limited has been awarded the contract for the supply of hydraulic equipment to Canada Iron Foundries Limited who are to manufacture the tunnelling shields to excavate the Bloor University Avenue Subway in Toronto. The equipment consists of cylinders and rams, erector arms, and hydraulic pumps. This order, which is for $600,000 worth of equipment, has been secured against keen international competition on both price and delivery, after very intensive activity by the Tangye selling organisation in Canada, namely, Tangyes of Canada Limited, Montreal.

An order for six Hydrocon Highlander 5-ton rotary hydraulic full circle slewing mobile cranes has been placed with Brown & Tawse Plant Limited, by British Railways, North Eastern Region, for use by the Civil Engineering Department. Seats for four men are provided in the moulded fibreglass cab. Jib lengths of 56 ft. can be easily made up, and 2¼ tons is handled with spot-on precision on this jib at 15 ft. radius. The four jib extension pieces are carried by the crane itself and fuel consumption figures with the Thornycroft six-cylinder diesel engine are 15 miles per gal. on the road, and 1½ gal. per day when on site, using only gas oil.

British Railways, Eastern Region, has placed the following contracts:

Carter-Horseley (Engineers) Limited: renewal of and repairs to bow string girders and trusses supporting roof over openings in Nos. 1 and 2 transit sheds at Parkeston Quay

G. Longdon & Son Ltd.: construction of sand drier building, foundations for overhead sand bunkers and feed pipes, reinforced concrete retaining wall and locomotive ash pits at Mexborough Motive Power Depot

Wellerman Bros. Ltd.: works in connection with the provision of servicing facilities for main-line diesel locomotives at Cambridge Motive Power Depot.

British Railways, North Eastern Region, has placed the following contracts:

Steel Engineering Products, Limited: four diesel-electric rail-mounted cranes

Otis Elevator Co. Ltd.: supply and installation of one lift in the Regional Headquarters Offices, York

Raines (H. & V.) Limited: new domestic heating and hot water system at Bradford Valley Goods Offices

Mitchell Construction Limited: diversion of the River Calder in connection with the preliminary work on the new marshalling yard at Healey Mills

Electric Construction Co. Ltd.: four 65kVA. transformers for Tweedmouth and Alnmouth

Holmpress Piles Limited: supply of piles for the centre pier of bridge No. 1 over the Leeds-Liverpool Canal near Leeds City Station.

The Special Register Information Service Export Services Branch, Board of Trade, has received calls for tenders as follow :

From Formosa:

57 suburban type passenger coaches without conductor room, complete with spare parts

18 suburban type passenger coaches with conductor room, complete with spare parts.

The issuing authority and address to which bids should be sent is the Central Trust of China, Purchasing Department, 68, Yen Ping Nan Road, Taipei, Taiwan (Formosa). The tender No. is US—673. This purchase will be financed by the International Co-operation Administration (I.C.A.), the agency through which the United States Government gives economic and technical assistance to other countries. The closing date is November 21, 1959. The Board of Trade reference is ESB/25499/59/I.C.A.

From Rhodesia :

2 rail-mounted travelling breakdown cranes, steam or diesel powered, 50-ton capacity.

The issuing authority and address to which bids should be sent is the Secretary, Rhodesia Railways Tender Board, P.O. Box 1577, Bulawayo. The tender No. is T.B. 259. The closing date is January 12, 1960. Specifications and drawings are obtainable from the Secretary, Tender Board, P.O. Box 1577, Bulawayo, on deposit of £10 per set, which will be refunded on receipt of a bona fide tender. Tender documents are also obtainable from The Agent, Rhodesia Railways, 241, Salisbury House, London Wall, London, E.C.2. The Board of Trade reference is ESB/25600/59.

From Pakistan:

37,765 hard seasoned timber sleepers in accordance with the Pakistan Railway Board specification.

The issuing authority is the Government of Pakistan, Ministry of Railways & Communications (Railway Board). The tender No. is 59/1720/14/SII. Bids should be sent to the Chairman, Railway Board, Room 311, 2nd Floor, Tughlaq House, Shahrah Kamal Ataturk, Karachi. The closing date is November 10, 1959. Local representation is essential. The Board of Trade reference is ESB/25355/59.

From Spain:

24,000 *tonnes* of rails, 54·4 kg.

The issuing authority and address to which bids should be sent is Iltmo. Sr. Director de la Renfe, Ayuda Economica, Paseo del Rey, 8, Madrid " Oferta para la adquisicion de Carriles, del Fondo de Prestamo Para el Desarrollo economico, Concurso D.L.F. Num. 3." The tender No. is D.L.F. No. 3. This purchase will be financed by the Development Loan Fund, an agency through which the United States Government gives economic assistance to other countries. The closing date is November 9, 1959. The Board of Trade reference is ESB/25453/59/I.C.A.

Further details relating to the above tenders together with photo-copies of tender documents can be obtained from the Branch (Lacon House, Theobalds Road, W.C.1).

ROYAL ENGINEERS ARMY EMERGENCY RESERVE (TRANSPORTATION) ANNUAL DINNER.—The dinner of the Royal Engineers Army Emergency Reserve (Transportation) will be held at the Cafe Royal, Regent Street, W.1, on February 26, 1960.

Staff and Labour Matters

Strike of Dining Car Staff

The unofficial strike of British Railways dining car staffs still continued as we went to press. At a mass meeting in London on November 2, a resolution was carried by some 400 men representing all regions declaring all Pullman cars "black." In addition, a decision of the Central Strike Committee was supported that there should be no return to work until a meeting had been arranged either with the British Transport Commission or the Executive Committee of the N.U.R. to secure the objects of the strike, which were declared to be:

(*a*) Cancellation of the recently concluded Agreement between the Pullman Car Company and the N.U.R.
(*b*) No further extension of the Pullman Car Company operations on British Railways.
(*c*) The promotion of a policy for assimilating the Pullman Car Company into the Hotels and Catering Services of the B.T.C.

The strikers called on all District Councils and branches of the union to start taking "active measures" to reach a successful conclusion of the dispute. It was stated by the chairman of the Central Strike Committee that if there was full support from other grades of staff, Pullman train services were likely to be disrupted.

The Executive Committee of the N.U.R. sent out an invitation on November 2 to the 25 elected representatives of the Restaurant Car Wages Staff Regional Councils to meet them on November 4 "for the purpose of a full exchange of views." An appeal was also made to the restaurant car crews to resume normal working.

Notes and News

Sixth International Congress on Combustion Engines—1962.—At a meeting of the Permanent Committee of CIMAC held in Paris in October, it was agreed that the next Congress will be held in 1962 in Copenhagen. The theme will be "Recent developments with diesel engines and gas turbines above 3,000 h.p. per engine and with gas engines above 1,500 h.p. per engine." Full details concerning the actual dates and instructions to authors intending to submit synopses of papers will be circulated by the British National Committee as soon as these are available.

Order of St. John Investitures of Eastern Region Officers.—Mr. E. J. Stephens was admitted to the Order of St. John as a Serving Brother in February, 1959, and not 1939 as stated in error last week.

Transportation Club Dinner.—The last Transportation Club dinner to be held at 44, Wilton Crescent, S.W.1, will be on Thursday, November 26, at 7 for 7.30 p.m. The guest of honour will be Mr. Christopher Brunner, a Director of Shell-Mex & B.P. Limited, who will speak on "Oil supplies for the railways." The charge will be £2 10s. per head, to include wines. Dress will be lounge suits.

Developments in Machine Tools.—A demonstration of machine tools will be held at the London showroom of Alfred Herbert Limited, 70, Vauxhall Bridge Road, S.W.1, on November 17-26. Machines which will be seen in operation were shown recently at the Paris Exhibition. These include a Herbert No. 2 D capstan lathe with programme-control system, a No. 2 Flashcap lathe with indexing chuck, a No. 5 Senior Preoptive capstan lathe, a turret-type drilling machine, a Herbert/De Vlieg 2B/36 Spiramatic Jigmil with Datarol, and a Holbrook Model 13 C precision lathe.

Sir Brian Robertson Visits Notting Hill Gate Station.—Sir Brian Robertson, Chairman of the British Transport Commission, and Sir Reginald Wilson, Member of the Commission, who are both members of the London Transport Sub-Commission of the B.T.C., recently inspected the new Notting Hill Gate Station, L.T.E. The station replaces two separate Circle and Central Line stations on opposite sides of Notting Hill Gate. The new booking hall, subways, and two flights of escalators were brought into use on March 1 last, and the remaining works, including a third escalator to the eastbound Central Line, will be completed in the late summer of 1960. A description of the station was given in our March 6 issue. The illustration shows Sir Brian Robertson with (left to right) Sir Reginald Wilson, Mr. A. H. Grainger, Deputy Chairman & Managing Director, London Transport Executive, and Mr. C. E. Dunton, Chief Civil Engineer, in the shaft being built for the third flight of escalators to link the Central Line westbound platform with the eastbound platform, which is 16 ft. lower.

Sir Brian Robertson inspecting an escalator shaft at Notting Hill Gate, L.T.E.

Institute of Transport Paper "Electronics and Transport," Change of Date for Metropolitan Section.—The meeting of the Metropolitan Section of the Institute of Transport originally arranged for April 4, 1960, has been brought forward to March 28. The paper to be presented remains the same—"Electronics and Transport," by G. H. Hinds, Electronics Advisory Officer, British Transport Commission.

Reduced First Class Fares on Saturdays in London Midland Region.—Reductions in first class fares to and from Euston and St. Pancras and Manchester, Liverpool, and Glasgow on Saturdays have been effected by British Railways, London Midland Region. Tickets are available for return on the day of issue or one week later. Return fares are Manchester 78s., Liverpool 82s., and Glasgow 150s., representing savings of 26s., 28s. and 66s. respectively.

British Railways Electrification Conference, 1960.—The British Transport Commission has decided to call a conference next year of railway engineers from all parts of the world to review the developments in a.c. electrification. It will be known as the "British Railways Electrification Conference, 1960," and will take place in London during the first week in October. There will also be an exhibition of rolling stock and electrification equipment held at Battersea Wharf in connection with the conference. Sir Brian Robertson, Chairman of the British Transport Commission, has already written to foreign railway administrations inviting them to send their electrical and signal engineers and other interested technical officers. It is expected that between 300 and 400 delegates from abroad will attend the conference, which will take place at the Institution of Civil Engineers, Great George Street, London, S.W.1.

Bristol-Frome Branch Closed to Passenger Traffic—The passenger train service between Bristol Temple Meads and Frome *via* Radstock West was withdrawn by British Railways, Western Region, on November 2. The stations at Brislington, Pensford, Clutton Hallatrow, Midsomer, Norton & Welton, and Radstock West, and Whitchurch, Farrington Gurney and Mells Road Halts, have been closed to passengers. Road services covering the area are operated by the Bristol Omnibus Co. Ltd., and the Bath Tramways Co. Ltd. Goods trains continue to use the line. Facilities for the dispatch and collection of parcels traffic are available at Bristol Temple Meads, St. Anne's Park, Keynsham & Somerdale, Radstock North, Midsomer Norton South, Binegar, and Frome Stations.

B.T.C. Films Selected for Russian Film Festival.—Three British Transport Commission films were among seven short films selected for showing at the Festival of British Films in U.S.S.R. during October. The Festival, which was arranged by the Soviet Relations Committee of the British Council, was the first to be held in the U.S.S.R. The B.T.C. films, with Russian commentaries, shown at Moscow, Leningrad and Kiev, are: "Journey into Spring," "Between the Tides," and "Under Night Streets." The first, which features beautiful places in southern England, received the British Film Academy award for the best documentary film for 1957. "Between the

Tides" describes plant and animal life on the West Coast of Britain; it gained first prizes in the Venice and Cork Film Festivals last year. "Under Night Streets" is an account of some of the work carried out during the night on the London Underground railways. All the films were made by the B.T.C. Film Unit, under the direction of Mr. Edgar Anstey, Films Officer of the Commission.

Experimental Back-Lighting of Advertising Panels on Buses.—Illuminated advertisements on the side panels of British Transport buses are being developed by the British Transport Commission. The first bus in Britain to carry this new form of outdoor advertising is one of the fleet of the Bristol Omnibus Co. Ltd. in the Tilling Group. On this bus the advertisement is painted in reverse on to three sheets of translucent plastic which replace sections of the outer skin of the body and are held in place by rubber moulding. The panel is lit from behind by 30 6-W. lamps which draw their current from the battery of the vehicle. Consideration will be given to the use of this new form of outdoor advertising on B.T.C. bus fleets throughout the country.

Bristol Omnibus Co. Ltd. vehicle with illuminated advertising panels

N.E. Region Railwaymen Holders of Civic Office.—Mr. T. H. Summerson, Chairman of the North Eastern Area Board, British Transport Commission, and Mr. H. A. Short, General Manager, British Railways, North Eastern Region, entertained recently at the Royal Station Hotel, York, seven members of the staff of the Region who have been elected to civic office for the current municipal year. The illustration shows the seven holders of civic office with Mr. T. H. Summerson (second from right), Mr. H. A. Short (third from left), Messrs. L. M. Sayers, Assistant General Manager (Administration) (on left), S. J. Judson, Regional Establishment & Staff Officer (on left of Mr. Summerson) and Mr. A. Dean, Chief Civil Engineer (on the left of Mr. Judson), and the seven civic chiefs: Aldermen N. L. Allison, Mayor of Sunderland; R. W. Pumphrey, Mayor of Morley; N. Garrow, Chairman of the Northumberland County Council; B. N. Young, Deputy Mayor of Gateshead; Councillors F. A. Constable, deputy Mayor of Whitley Bay; W. Spencer, Chairman of Aireborough Urban District Council; and J. C. Wren, Chairman of Normanton Urban District Council.

Epping Underground Station Car Park Enlarged.—The motorcar park at Epping Station on the Central Line of London Transport Station will be almost trebled in size to take 150 cars when an extension is opened on November 9. The new park, to hold 98 vehicles, is on the west side of the station approach on land which has been levelled and surfaced.

Inland Waterways Exhibition at Birmingham.—An exhibition, "Use Your Waterways," held this week in Birmingham is part of a drive to attract traffic to canals and waterways, and more particularly exports and imports from and to the Midlands. It is held in the Birmingham Chamber of Commerce and closes today. The display was opened last Tuesday by the Lord Mayor of Birmingham, Alderman John H. Lewis, who was welcomed by Sir Reginald Kerr, General Manager of British Waterways. Emphasis is given to the links between the Midland network of canals and the Thames, Humber, Mersey, and Bristol Channel ports particularly Hull and Bristol, from which there is good access by waterway to the Midlands. Each of the four Divisions of British Waterways is represented by staff able to discuss any matter concerning canal and inland waterways traffic. Representatives of British Transport Docks are in attendance to answer enquiries on facilities at docks connected to the waterways, particularly those of the North-East including Hull.

Mr. T. H. Summerson and Mr. H. A. Short with officers of the North Eastern Region and members of the staff who have been elected to civic office

C.N.R. Express Runs into Wagon of Dynamite.—When a transcontinental express of the Canadian National Railways was derailed 40 miles from Vancouver on October 21, the two diesel locomotives and three baggage cars left the rails. The leading locomotive ran into a wagon loaded with 100 cases of dynamite. There was no explosion, though the wagon was torn off its wheels and stoven in. There is stated to be evidence of sabotage, but maintenance staff are reported to have been working on points which are normally locked. The wagon, used as an explosives store, was on a siding in a quarry about 100 ft. from the main line.

Institute of Transport November Meeting.—Three complementary papers on "Fares Structures" will be presented for discussion at the meeting of the Institute of Transport arranged for 5.45 p.m. on November 9, in the Jarvis Hall, Royal Institute of British Architects, 66, Portland Place, London, W.1. "Air" will be dealt with by Dr. J. L. Grumbridge, General Manager (Commercial), British European Airways; "Rail," by A. W. Tait, Assistant General Manager, British Railways, Eastern Region; and "Road," by A. F. R. Carling, (a Vice-President), Executive, British Electric Traction Co., Ltd. The meeting will be open to visitors, without ticket.

All-Diesel Depot at Ipswich.—The final change-over from steam to diesel at Ipswich Motive Power Depot on the Great Eastern Line of British Railways, Eastern Region, took place on November 2. As a result Ipswich has become the first main-line steam motive power depot in the country to be converted completely for both passenger and freight services under the modernisation plan. Twenty-seven main-line diesel-electric locomotives allocated to the depot replace 60 steam locomotives.

XUM

Forthcoming Meetings

November 10 (*Tue.*).— Railway Correspondence & Travel Society, East Midlands Branch, at the N.C.S. Guild Room, Toll Street, Nottingham, at 7.30 p.m. Paper on "Great Central Atlantics," by Mr. P. H. V. Baynard, Motive Power Inspector, Leicester Central.

November 10 (*Tue.*). — Institution of Railway Signal Engineers, London Section, at the Institution of Electrical Engineers, Savoy Place, W.C.2, at 6 p.m. Paper on "Lifting carriers," by Mr. E. G. Brentnall, London Midland Region.

November 11 (*Wed.*).—Peterborough Technical College, Railway Discussion Group, at Eastfield Road, at 6.45 p.m. Paper on "Belgian Railways," by Mr. De Kimpe, Chief Assistant to Commercial Manager, Belgian Railways.

November 11 (*Wed.*). — British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas' Street, S.E.1, at 6 p.m. Paper on "The work of H.M. Customs," illustrated, by Mr. H. Nockolds, Press & Information Officer, H.M. Customs & Excise.

November 12 (*Thur.*).— British Railways, London Midland Region, Lecture & Debating Society, in the Clerical Staff Dining Club, Cardington Street, N.W.1, at 5.45 p.m. Paper on "Railways — the next 30 years," by Mr. C. Hamilton Ellis.

November 12 (*Thur.*).—Institution of Civil Engineers, at Great George Street, Westminster, S.W.1, at 5.30 p.m. Informal discussion on "Track maintenance and renewal, with particular reference to length of possession," introduced by Mr. F. Fawcett and Mr. W. F. Beatty.

November 13 (*Fri.*). — Institute of Transport, East Midlands Section at the Staff Training College, Derby, at 7.15 p.m. Paper on "Modernisation on the London Midland Region of British Railways," by Mr. E. W. Arkle, Director of Traffic Services, L. M. Region.

November 14 (*Sat.*).—Permanent Way Institution, East Anglia Section, at Norwich, at 2.15 p.m. Annual general meeting followed by a paper "Memories of the M. & G.N.," by Mr. R. F. Bonny.

November 14 (*Sat.*).—Railway Correspondence & Travel Society, Sussex & Kent Branch, at the Railway Hotel, Brighton, at 6.30 a.m. Paper on "And now the L.M.S.," by Mr. A. Cook.

November 16 (*Mon.*).—Permanent Way Institution, London Section, at the Headquarters of the British Transport Commission, 222, Marylebone Road, N.W.1, at 6.30 p.m. Paper on "Signalling for modernisation," by Mr. R. A. Green.

November 17 (*Tue.*).—Institution of Locomotive Engineers, at the Institution of Mechanical Engineers, 1, Birdcage Walk, Westminster, S.W.1, at 5.30 p.m. Paper on "The Swindon-built diesel-hydraulic locomotive," by Mr. G. E. Scholes.

November 17 (*Tue.*).—Institute of Transport, Metropolitan Graduate & Student Society, at 80, Portland Place, W.1, at 5.45 for 6.15 p.m. Annual general meeting followed by a paper on "Some psychological aspects of work study," by Mr. J. F. Little.

November 17 (*Tue.*).—Institute of Traffic Administration, Preston Centre, at the Victoria & Station Hotel, Preston, at 7.30 p.m. Paper on "Staff selection and training," by Mr. L. Waller.

November 18 (*Wed.*).—Peterborough Technical College, Railway Discussion Group at Eastfield Road, at 6.45 p.m. Paper on "Hotels," by Mr. F. G. Hole, General Manager, Hotels & Catering Services.

November 18 (*Wed.*).—Institution of Electrical Engineers, at Savoy Place, London, W.C.2, at 5.30 p.m. Paper on "Research on the performance of high-voltage insulators in polluted atmospheres," by Mr. J. S. Forrest, Mr. P. J. Lambeth, and Mr. D. F. Oakeshott.

November 19 (*Thur.*).—British Railways, Western Region, London Lecture & Debating Society in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Debate with Oxford University Railway Society —"That the desire for speed in modern life is to be deplored."

November 19 (*Thur.*).—Institute of Traffic Administration, Glasgow Centre, at the Kenilworth Hotel, Glasgow, at 7.45 p.m. Paper on "Continental travel," by Mr. Tom Jackson.

November 12 (*Thur.*).—Institute of Transport, South Western Section at the Great Western Hotel, Exeter, at 12.45 p.m. Paper on "Dock management," by Mr. S. A. Finnis.

November 20 (*Fri.*).—South Wales & Monmouthshire Railways & Docks Lecture & Debating Society, Swansea Section, in the Board Room, Dock Manager's Office, Adelaide Street, Swansea, at 6.45 p.m. Paper on "The role of the economist in the mid 20th century," by Professor A. Beacham, University College of Wales, Aberystwyth. Joint meeting with the Institute of Transport, South Wales & Monmouthshire Section.

Railway Stock Market

Although the volume of business declined a little, buyers still predominated, and many industrial shares advanced to new record levels. British Funds were in demand and inclined to move higher, and there was rather more business reported among foreign rails. Antofagasta ordinary stock improved to 16¾ and the preference stock to 28, its best this year, while the 5 per cent (Bolivia) debentures held steady at 94½. Mexican Central "A" bearer debentures were 66, United of Havana second income stock again 6, and San Paulo Railway 3s. units 1s. 6d.

Costa Rica ordinary stock has been in demand around 23½; the 6½ per cent first debentures were 80½. Brazil Railway bonds held their recent improvement to 7, Chilean Northern first debentures were 60, Paraguay Central prior debentures 18½ and International of Central America common shares $24⅜.

Canadian Pacifics have been in demand, and on balance rallied from $47½ to $48. The 4 per cent debentures, with other sterling securities, attracted buyers, and at 68 compared with 66¼ a week ago, while the 4 per cent preference stock improved fractionally to 59. White Pass shares firmed up to $13⅝.

Nyasaland Railways shares remained at 10s. 6d. and the 3½ per cent debentures at 53. West of India Portuguese capital stock kept at 106½.

In other directions, Charles Roberts 5s. shares have been outstanding with an advance on balance from 15s. 3d. to 19s. They were up to 20s. 6d. at one time, accompanied by rumours that the group's hire purchase interests may be hived-off, but the rumours were denied. Beyer Peacock 5s. shares have been firmer at 8s. 9d, Wagon Repairs 5s. shares were steady at 9s. 3d. with Gloucester Wagon 10s. shares at 14s. 6d. There was again a good deal of activity in Westinghouse Brake shares, which, however, lost an earlier rise, and at 52s. 3d. were the same as a week ago. North British Locomotive eased from 9s. 9d. to 9s. 6d. and Birmingham Wagon were marked down from 33s. to 30s. 10½d.

Pollard Bearing 4s. shares have been prominent with an advance from 34s. 6d. a week ago to 37s. helped by the market view that, when it is decided to raise more capital, it is likely to be by means of a rights offer to shareholders on attractive terms. Dowty Group 10s. shares strengthened afresh to 42s. 4½d. and Pressed Steel 5s. shares rose from 39s. 1½d. to a new record of 42s. 6d. Associated Electrical rallied to 65s. 9d., English Electric were 48s. and General Electric 44s., while Crompton Parkinson 5s. shares were up to a new peak of 18s. 9d. on the results. Babcock & Wilcox at 45s. 3d. have been steadier, Clarke Chapman strengthened to 59s. and Vickers to 31s. 6d. Craven Bros. 5s. shares firmed up to 13s. 4½d., and Stone-Platt have been firm at 63s., but Renold Chain eased a few pence to 55s. 6d. T. W. Ward at 141s. 3d. held nearly all the rise which followed news of the higher dividend.

Ransomes & Marles 5s. shares strengthened from 24s. to 24s. 6d. Carrier Engineering reacted from 73s. 9d. to 69s., but a further rise from 63s. 3d. to 66s. was scored by Metal Industries. Ruston & Hornsby lost 1s. at 26s. G. D. Peters were quoted at 18s. 1½d. George Cohen 5s. shares were 15s. 9d. and Crofts Engineering 5s. shares 21s. 3d., while Glynwed Tubes 5s. shares moved up to 26s. Tube Investments, after an earlier rise on the increase in dividend from 17½ per cent to 20 per cent, reacted to 116s. Steel shares remained very active with further gains. Stewarts and Lloyds were 54s. "ex rights" to the new issue and the new shares were at a premium of 14s. 6d. over the issue price of 40s. Dorman Long rose to 60s. 3d., United Steel were 70s. 3d. compared with 65s. a week ago, and Colvilles 56s. 6d. compared with 54s.

OFFICIAL NOTICES

BRITISH TRANSPORT COMMISSION

BRITISH TRANSPORT COMMISSION require Assistant (Design) in the Chief Signal Engineer's Department, with wide experience in design, manufacture and application of electric and electro-mechanical apparatus suitable for use in the field of railway signalling. Applicants must be conversant with modern techniques and materials for this purpose, including application of electronics. Professional qualification essential.

Salary range: £1,420—£1,695.

Superannuation scheme. Certain travel facilities. Medical examination. Write stating age, qualifications and experience to Director of Establishment, British Transport Commission, 222, Marylebone Road, London, N.W.1, within 14 days. Addressed envelope for acknowledgment.

EAST AFRICAN RAILWAYS & HARBOURS ADMINISTRATION. ASSISTANT MECHANICAL ENGINEER. Pensionable appointment. Salary £1,170/£1,755. Free passages. Free furnished quarters.

Candidates 25-35 years must have passed or be exempt from Parts I and II of the examination of the Institution of Mechanical Engineers and have served an apprenticeship with a British railway or a firm of locomotive or diesel engine builders, followed by at least four years' practical experience in the Mechanical Department of such an undertaking.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving full names, age, qualifications and experience, quoting BCD 173/06/D15.